

AMERICAN GAS ASSOCIATION MONTHLY



Vol. III

Nos. 6-7

June--July, 1921

It has been with great interest that I have watched the progress of the American Gas Association. It has become a great constructive force for the development of the gas business, and it would seem to me a short-sighted policy for any gas company to decide that it could do without membership. Standing for the high purposes that your organization does—and with its splendid record of accomplishment—it should be supported and encouraged by every gas company in the country.

JAMES A. PERRY,

*President of the National Association of
Railway and Utilities Commissioners.*

Due to a serious printers' strike the Association was unable to publish the June issue of the MONTHLY, which also accounts for the delay in getting out the present number. We have taken the matter assembled for both June and July and have sifted it down to the most timely and important of the contributions with which we have made the present combination issue. Combination it is, not as to the number of pages—but in reference to what the pages contain.



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FOR STATEMENTS AND OPINIONS CONTAINED IN PAPERS AND DISCUSSIONS
APPEARING HEREIN, THE ASSOCIATION DOES NOT HOLD ITSELF RESPONSIBLE

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Vol. III

JUNE-JULY, 1921

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It's Your Monthly, You Know

What are you contributing to this publication? Every good Association member is on our editorial staff. He puts himself there in his interest and in his efforts; he receives no remuneration and little notoriety but he considers the **Monthly** his magazine for which he is in part responsible, encouraged by its growth and somewhat blameworthy for its shortcomings.

Do you read the **Monthly**? What do you look for in it that is not there? There is only one group of people more interested in a magazine than its readers and that group is made up of its contributors. Before the **A.G.A. Monthly** can really belong to you, you must assume some of the responsibility for its welfare. Read it, and as you read it, analyze it. All types of readers will not want the same thing you want, but you represent a type of reader. What is the first thing to which you turn when your new issue comes in? Is there as much of it as you think there should be? Is it as good as you think it should be? Is it there at all?

We are glad to have people tell us the nice things about our publication and yours, but we are more interested in having people tell us what's the matter with it. There are too many people saying something like this—"I think it would be a good thing if you had more stuff like Mr. Turner's last article. Why the other day I read a new story by John Brown. Now, if you'd get more like that,—"
et cetera.

But—did you write and tell us about John Brown's article? Did you tell us how we could get it? Did you tell John Brown that we were looking for just such material? The **Monthly** does not pay for its contributions, but after all, it belongs to you. When busy men are called upon to give their valuable time and support to such things as Emergency Committees, do they think about salaries? It is for our mutual benefit that they are working; it is for our mutual benefit that the **Monthly** is being printed.

Try sending us something, write for us yourself, get others to write for us, send us suggestions, and above all, keep us in touch with the new "wrinkles" that you believe would interest **Monthly** subscribers. Look upon yourself as a member of our staff.

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Publicity Trail Blazers

A Review of the Organization and Progress to Date of State Committees on Public Utility Information.

TWO years ago a number of executives of public utility companies in the State of Illinois met in Chicago and organized a committee for the purpose of informing the public on the fundamentals, and particularly the economics of the public utility industry, with the idea in mind of cultivating a public opinion friendlier both to the industry and to the individual gas, electric, street railway and telephone companies.

Thus was organized the first state committee on public utility information. Today there are committees in ten other states operating along lines similar to the original Illinois Committee, while two additional states are about to start work with committees already appointed, nine others are now organizing and two more are going ahead with the work without committees, making 24 states in all which are either actively engaged in or preparing to support the project.

Any movement which has enjoyed the growth that this has within a short period

of two years, merits the careful consideration of the gas industry. When first started it was a decided departure from the public relations work then in vogue and was considered with some alarm by the more conservative element in the utility business. But the principle behind it was right, as its success of the past two years proves, and we are glad to say that one of the members of the original Illinois Committee who was an enthusiastic believer in it from the beginning and who foresaw its advantages was Charles A. Munroe, president of this Association.

Briefly, a state committee on public utility information is a group of gas, electric light, street railway and telephone executives who are banded together as teachers to tell the people of the State in which they operate the fundamentals of the public utility business. Its mission is purely educational. It is concerned only in placing the facts before the people, believing that the public is fair when fairly treated and that it is capable

of realizing the advantages of properly supported utilities as against utilities which are starved to death, or which are hampered in their development by reason of locally imposed obstructions to development.

Furthermore, there is nothing in the program of these committees looking toward a universal increase of rates or a universal changing of regulatory laws. Indeed, the absence of hostility on the part of newspapers, politicians and others to the committees now in operation, as well as the success obtained in getting educational matter accepted and printed, is attributed to the fact that these organizations have lived up to the "information" part of their names.

Two important factors in the Illinois Committee's success are said to be: (1) The careful way in which its work is done so that no accusation may lie against it of trying to mislead the public; and (2) The motive power supplied by the weekly meetings of the committee and the facilities of the committee members for getting close to local managers and spurring them to co-operative action.

We believe that this is true to no less an extent of committees in other states which are doing some very effective educational work.

The American Gas Association has watched this movement grow with increasing interest and is a firm supporter of it. With the National Electric Light Association and the American Electric Railway Association, it is endeavoring to enlist the support of member companies in the organization of additional state committees and in the further support of committees already working. Although interest has been aroused in many states, the preliminary organization work is

often delayed because there is no leader to take the initiative and some companies seem to fear that they will bear the burden for the entire state. Then there is a feeling on the part of some that this is not the proper time to inaugurate work of this character. This timidity is hardly justified by the facts, however, for two large committees, one of them representing the utility interests in the New England states, will probably be in operation before this gets in print, and organization work is going ahead rapidly in other states.

In order that our member companies may become conversant with this movement and be better able to judge for themselves what has been accomplished throughout the country by the ten committees actively at work, we summarize below the latest reports that have been received from them.

ARKANSAS

In October, 1920, the executive committee of the Arkansas State Utilities Association organized a Public Relations Section and gave it authority to proceed with publicity work. The nine members of that Committee undertook to finance the work, with such help as might be obtained from other Association members, contributions being on the basis of $\frac{3}{4}$ of a mill per \$1,000 of assessed valuation as fixed by the state tax commissioner. Active work was started November 1, 1920, with an office in Little Rock. Assessment payments were received from 40% of the companies in the State and 12% of the companies actively co-operating.

So far as is known this committee probably is the only one which has used paid newspaper space for direct adver-

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tising. Some 8,000 inches of advertising was paid for in 75 papers, and an equal amount of free publicity was obtained. As a result of this policy, a large number of utility companies were induced to conduct continuous advertising campaigns.

The work of this Committee was started just prior to a session of the legislature, but subsequent to the Fall election at which the party pledging abolition of the corporation commission had been elected. In the light of later events, it is believed that this work was started too late, for the corporation commission was abolished, the State returning to the old form of the state railroad commission having jurisdiction over common carriers and utilities going back to the home rule and local regulation basis.

Subsequent to the abolishment of the corporation commission the work of the Public Relations Section was suspended temporarily, but many of the activities still are being carried on by a few of the companies, the executives of which believe that public understanding is essential to the future success and prosperity of public utilities.

Two members of the Executive Committee of the Arkansas State Utilities Association were designated to direct the work of the Section, H. C. Couch, president of the Arkansas Light & Power Company, Pine Bluff, Arkansas, and C. J. Griffith. A. G. Whidden of the Arkansas Light & Power Company, Pine Bluff, is manager of the section.

ILLINOIS

As stated before, this Committee has been the inspiration for public utility operators in other states and other sections of the country to organize committees of their own. Of the several agen-

cies utilized by the committee to reach the public, these are among the most important:

Weekly news bulletin to daily newspapers in the state, supplemented by special bulletins from time to time.

Publication and distribution of speakers' bulletins, each devoted to some phase of the utility industry.

Operation of bureau to furnish dependable speakers on utility subjects.

Publication and distribution of pertinent addresses and articles by important men; reprinting of editorials, etc.

Special literature for use in public schools and colleges.

The Committee has distributed more than 5,000,000 pieces of literature directly in the hands of customers of public utilities, business men who are members of chambers of commerce and other civic organizations, bankers, lawyers, teachers, ministers, librarians, students in colleges and high schools, public officials and candidates for public office. In the latter class were included the members of the present Illinois Legislature who began receiving this educational matter as soon as they announced their candidacies. This latter feature of the work undoubtedly resulted in the present legislators being well versed in public utility matters, with the result that, in spite of a determined effort to abolish the State Public Utilities Commission, the principle of state regulation was retained.

That the work of this Committee had much to do with the public's attitude toward the proposed abolishment of state regulation is readily admitted. In his inaugural address the present governor of Illinois recommended the repeal of the Public Utilities Law and the abolishment of the Commission. Immediately citizens

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and civic bodies throughout the State took up the question. The Illinois Chamber of Commerce, which is a federation of chambers of commerce in the principal cities of the State, conducted a referendum on the subject, with the result that retention of the State Utilities Commission was declared for by a vote of 21,825 to 1,039, a ratio of 21 to 1.

The weekly news bulletin goes regularly to the 900 newspapers in the state, including 125 dailies, and the use of this matter by the state press averages about 5,000 column inches each month or more than 250 newspaper columns. Newspapers formerly unfriendly to the utility companies are now printing the material issued by the committee and helpful editorial comment is frequent. Companies are also advertising as the result of the education their officers have received at the hands of the committee.

Speakers' bulletins have enjoyed a wide distribution to superintendents and principals of high schools, members of financial institutions, preachers, colleges and libraries. Already 800 Illinois high schools have requested this material. Also, in this connection local managers of utilities have given addresses in nearly 100 communities, and local committees are being organized to promote discussion of utility subjects in public meetings and otherwise.

The committee is made up of the following:

John F. Gilchrist, Vice-President, Commonwealth Edison Company, Chicago, Chairman.

B. J. Mullaney, director public relations, Peoples Gas Light & Coke Co., Chicago, Director.

H. M. Lytle, 122 South Michigan Avenue, Chicago, Associate Director.

Martin J. Insull, Vice-President Middle West Utilities Company, 72 West Adams Street, Chicago.

Charles A. Munroe, Vice-President Peoples Gas Light & Coke Company, 122 South Michigan Avenue, Chicago.

Britton I. Budd, President, Chicago Elevated Railways.

Williston Fish, Vice-President and General Manager Chicago Surface Lines.

John L. Spellman, Director of Publicity, Chicago Telephone Company (Bell).

George R. Jones, Secretary Public Service Company of Northern Illinois, Chicago.

Stanley R. Edwards, Editor "Telephony" (Independent).

E. H. Negley, General Manager Canton Gas & Electric Co., Canton.

H. S. Whipple, General Manager Rockford Gas Light & Coke Company, Rockford.

Ray Stretch, General Manager Union Gas & Electric Company, Bloomington.

R. S. Wallace, Vice-President and General Manager Central Illinois Light Company, Peoria.

B. J. Denman, President Tri-City Railway and Light Company, Rock Island.

Marshall E. Sampsell, President Central Illinois Public Service Company, Chicago.

William A. Baehr, President Southern Illinois Light Company, Chicago.

R. V. Prather, Secretary-Treasurer Illinois Electric Association, Springfield.

J. R. Blackwell, Vice-President and General Manager Chicago & Joliet Electric Railway Company, Joliet.

W. H. Sawyer, President E. St. Louis & Suburban Railway Company, East St. Louis.

A. D. Mackie, Vice-President and General Manager Springfield Consolidated Railways Company & Springfield Gas & Electric Company, Springfield.

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Dr. R. E. Gordon, President Illinois Independent Telephone Association, El Paso.

J. G. Mitchell, Secretary, Illinois Independent Telephone Association, Springfield.

INDIANA

The Indiana Committee on Public Utility Information was organized and started operation January 15th, 1920, with ten companies guaranteeing funds. At the close of 1920 the work had progressed so that seventy companies were assisting and the Indiana Public Utility Association had been organized as a result of the work of the committee. Included in the seventy members are all of the larger companies and a considerable number of the smaller companies.

As in the case of the Illinois and other committees, the director originates and prepares all material, which is passed upon by the membership of the Committee at weekly meetings. Thus far the work of the Committee has been confined to newspaper publicity, with the assistance of several speakers, although no speakers' bureau has been organized. The Committee is now preparing an educational campaign to be conducted through the schools, libraries and colleges. Considerable newspaper publicity was secured through the preparation of a letter to the President of the United States on the coal situation, a proclamation by the Governor of the State and resolutions regarding the utilities' situation submitted to, and adopted by, many chambers of commerce.

The Committee is made up of the following:—

Charles L. Henry, Chairman, President Indianapolis and Cincinnati Traction Company, Indianapolis.

Harry Reid, President Interstate Public Service Company, Indianapolis.

S. E. Mulholland, Vice-President Northern Indiana Gas & Electric Company, Fort Wayne.

Frank O. Cuppy, Lafayette Telephone Company, Lafayette.

Frank Wampler, Treasurer Indiana Bell Telephone Company, Indianapolis.

C. L. Kirk, Vice-President Indianapolis Water Company, Indianapolis.

C. C. Perry, President Indianapolis Light & Heat Company, Indianapolis.

J. D. Forrest, General Manager Citizens Gas Company, Indianapolis.

Thomas Donohue, Northern Indiana Gas & Electric Company, Lafayette.

E. J. Burke, Secretary Indiana Gas Association, Citizens Gas Company, Indianapolis.

John C. Mellett, Director Indiana Committee on Public Utility Information, Indianapolis.

KENTUCKY

The Kentucky Committee was organized in September, 1919, and first published its News Service Bulletin the following month. The work of this Committee was started in order to place the case of the utilities before the public prior to the convening of the Kentucky Legislature in January, 1920, and the activities were in charge of a committee of three executives of public utilities. The work carried on was entirely voluntary until after the meeting of the Legislature in 1920 when the secretary of the Kentucky Association of Public Utilities became the active director. The Committee activities aroused considerable interest on the part of utility companies throughout the State and many of them began advertising through their local newspapers, and through direct mailing of pamphlets. Subsequently speakers

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appeared before boards of trade and other commercial bodies, and some work has been done in the high schools. A plan is now receiving consideration whereby the Committee hopes to undertake practically all of the activities conducted by other committees, but on a smaller scale.

The Committee is made up of the following:—

Harry Reid, President Kentucky Utilities Company, Louisville.

Donald McDonald, Vice-President Louisville Gas & Electric Co., Louisville.

J. P. Pope, General Manager Lexington Utilities Company, Lexington.

Henry D. Fitch, General Manager Kentucky Public Service Co., Bowling Green.

J. B. Riley, Secretary Kentucky Association of Public Utilities, Louisville.

L. B. Herrington, Vice-President Kentucky Utilities Company, Louisville, Chairman Kentucky Committee on Public Utility Information.

MICHIGAN

With its organization completed late in 1920, the Michigan Committee on Public Utility Information began work January 1st, 1921. This Committee differs from other State committees in that it represents only the gas and electric companies of the State, the other classes of utilities having declined to participate. It is financed by the Michigan Gas Association and the Michigan Electric Light Association.

No effort has been made to send out bulletins. This Committee is operating on the basis that it is an information bureau and is bending all its efforts toward making the public realize that the Committee can and will gladly furnish indisputable, unbiased information with regard to utilities, their operation and

their relation to the public. The Committee states that inquiries are being received in increasingly large numbers. Some of the questions are technical, and others are along the line of public policy. The technical questions are answered through the co-operation of member company experts and also the co-operation of the engineering department of the University of Michigan.

Some material has been sent to newspapers, but this has been material which is of actual news value, the Committee being pledged to the plan. The director of the Committee has sole charge of the material sent out, but on matters of policy takes up the questions with the chairman and secretary. The next step is the organization of a speakers' bureau which is now under way, and a plan for securing the co-operation of the women's clubs of the State in taking up a study of utility problems.

The Committee is made up of the following:—

Henry W. Douglas, Chairman, Ann Arbor.

Frank A. Newton, Consumers Power Co., Jackson.

Herbert Silvester, Detroit Edison Co., Ann Arbor.

A. C. Marshall, Detroit Edison Co., Detroit.

C. W. Tippy, Consumers Power Co., Jackson.

Eugene Holcomb, Central Michigan Light & Power Co., Alma.

J. W. Batten, Detroit City Gas Co., Detroit.

George Lewis, Detroit Edison Co., Ann Arbor.

Henry Tinkham, Director, Ann Arbor.

MISSOURI

The organization of the Missouri Committee on Public Utility Information was authorized at the 1920 June meeting of

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the Missouri Association of Public Utilities, and was formed in September, 1920, the first bulletin being issued October 1st. The News bulletins are issued twice a month instead of weekly as in most other cases. The mailing list includes editors of all newspapers, all operating utility companies, members of the State Legislature and the State University, some public libraries and all business or civic organizations. The activities of this Committee have been confined entirely to this character of publicity, although plans for broadening the scope of work are now being considered.

The Committee has no paid secretary or director, the work being done entirely by the following committee:—

E. D. Bell, General Manager Illinois Traction System, Missouri Properties, St. Louis.

H. Wurdack, General Manager The Light & Development Co., St. Louis.

J. H. Horgan, General Manager Empire District Electric Co., Joplin.

W. J. O'Connor, Assistant to the President Southwestern Bell Telephone Co., St. Louis.

Wiley F. Corl, General Manager Missouri Utilities Co., Mexico.

NEBRASKA

On April 8th, 1920, representatives of forty public utilities met in Omaha to discuss the formation of a Nebraska Committee on Public Utility Information. A general committee was appointed later on and following that an executive committee composed of W. B. Roberts, Union Power & Light Co., Omaha. Chairman; W. S. Byrne, Nebraska Power Co., Omaha, Secretary-Treasurer; T. H. Fritts, Central Power Company, Grand Island and J. E. Harsh, Lincoln Gas &

Electric Co., Lincoln. Horace M. Davis of Omaha, for many years a country newspaper editor, was engaged as director.

Organization work was started at once and practically every gas and electric company in towns of more than 5,000 population evinced an interest in the project. The director then turned his attention to publicity matters and one of the first steps was to issue a questionnaire to each newspaper in the state eliciting from the editor the condition of utility operation as he viewed it in his community and asking his opinion as to the relative advantages of municipally-owned or privately-owned utilities. From the replies received the director was able to form a fairly accurate estimate as to the sentiment that the newspaper might hold with regard to the publicity campaign proposed. The first regular bulletin was issued the first week in June.

Comparatively little of the suggested copy was used during the first month, but there was a slight increase in the second month, and quite noticeably so in the third month. As election time approached the director of the committee traveled over the state getting acquainted with utility operators and re-establishing cordial relations with the newspaper fraternity. He also took advantage of the opportunity to make the acquaintance of candidates for the legislature, and, when consistent, discussed the needs of the utilities for kindly legislation.

Two-thirds of the libraries in the State already have been placed upon the mailing list by request and in response to circular letters sent out a large number of the public schools have requested information for use in theses and debating societies.

Nebraska has an unusual situation in that more than half of the gas and electric companies are municipally owned, but practically all of the privately owned companies are co-operating with the committee. At present only one large traction company and one large telephone company are not co-operating.

The office of the director was moved from Omaha to Lincoln prior to the opening of the Legislature and the work has been carried on there since that time.

Out of 466 newspapers receiving bulletins regularly 412, or 90% are using material sent out by the Committee. The secretary of the State Press Association of Nebraska, has been given free desk room in the office of the Committee, with the result that the office is the general meeting place of newspaper men and women from all parts of the State when in Lincoln.

OHIO

The organization meeting of the Ohio Committee on Public Utility Information was held in Columbus, September 24th, 1920, at which time W. W. Freeman, president of the Union Gas and Electric Company of Cincinnati, was chosen chairman and Robert Lindsay, Vice-president and General manager of the Cleveland Electric Illuminating Company, was elected as treasurer. Benjamin E. Ling, a Cleveland newspaper man, was appointed director.

The first weekly news bulletin of the Committee was sent out November 8th, 1920, having purposely been delayed until after the November election in order that there might be no suspicion of political activity upon the part of the Committee. At the outset only half a dozen of the larger utility companies were actively interested in the Committee, but today

practically every large utility in the State is supporting the work. The Ohio Electric Light Association is assessing all member companies on the basis of gross earnings and the Ohio Oil and Gas Men's Association is now arranging to put a similar plan into practice. The work of the Committee is being conducted on a budget of \$24,000 during the first year, and a plan of assessment has been worked out on the basis of one-fiftieth of one per cent of gross earnings, which will bring in approximately \$30,000 a year for future work.

Until March 1st, 1921, the work of the Committee was confined exclusively to newspaper publicity and the preparation and distribution of pamphlets. During March the committee began operating the Speakers' Bureau and engaged G. C. Maxwell, former secretary of the Ohio Public Utilities Commission to take charge of the work and to appear before chambers of commerce and other bodies throughout the state. The Committee now is preparing bulletins on utility service for use in colleges, schools, debating societies and libraries.

The Committee is as follows:

W. W. Freeman, President Union Gas and Electric Company, Cincinnati, Chairman.

Robert Lindsay, Vice-President and General Manager The Cleveland Electric Illuminating Co., Cleveland, Treasurer.

Joseph H. Alexander, Vice-President The Cleveland Railway Company, Cleveland.

Chas. P. Cooper, General Manager The Cleveland Telephone Co., Cleveland.

Walter A. Draper, Vice-President The Cincinnati Traction Company, Cincinnati.

O. H. Hutchings, Associate General Manager The Dayton Power & Light Co., Dayton.

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E. A. Reed, General Manager The Central Union Telephone Co. of Ohio, Columbus.

L. J. Wolf, Vice-President The Cleveland, Southwestern & Columbus Railway Co., Cleveland.

K. C. Krick, Vice-President The Logan Natural Gas & Fuel Co., Columbus.

Freeman T. Eagleson, Attorney, Columbus.

F. L. Beam, Secretary The Ohio State Telephone Co., and President The Ohio State Independent Telephone Association, Columbus.

W. L. Cary, Secretary The Ohio State Telephone Co., Columbus.

OKLAHOMA

The Committee in this State has conducted its work along lines somewhat different from any other committee. The Bureau was authorized at the second annual convention of the Utilities Association of March, 1920, but the actual work was not started until December. The campaign for the first year is outlined under six headings as follows:—

1. The immediate establishment of a News Letter Service to the newspapers and magazines to be issued weekly.
2. The publication of the Public Service Journal.
3. A Judicial Bulletin in which should be given information of corporation commission orders and supreme court decisions.
4. The establishment of an Educational Bulletin to be used in the schools of the State.
5. An Advertising Bulletin for the use of Public Utility Executives, the matter to be used in local advertising space in newspapers.
6. A publication of a rate book for use of Public Utility Executives.

The Public Service Journal had been issued for more than a year prior to the beginning of the Bureau's work, but is now included in the general work. The Judicial Bulletin was started February

16th, 1921. The work upon the Rate Book has been begun and will be published within the next two or three months. The Educational Bulletin probably will not be published until the Fall term of school in September, but the Advertising Bulletin will be started within the next week or two and a definite program for its use already has been placed in the hands of public utility operators.

Instead of sending the News Bulletin to all editors in the State the Committee announced through the public press that it was preparing weekly news bulletins and that these would be sent to editors or any other individuals interested, but only upon request. The result was a very small circulation at first, but gradually the editors of the newspapers, librarians, public officials and others requested that they be placed on the mailing list, until today the State is very well covered and the members of the Committee directing the activities of the Bureau feel that the Bulletins are read with much more interest than would be the case had they been sent out broadcast and without requests having been made for them.

WISCONSIN

The Wisconsin Public Utilities Bureau was organized in November 1920 and active work was started December 1st. The first bulletin entitled "Newspaper News" was issued December 15th to all newspapers in the State and to all public utility executives. Since that time the mailing list has been increased by the addition of the names of mayors, chairmen of municipal finance committees and city clerks. Customary supervision is exercised by members of the committee. Frantz Herwig, 445 Milwaukee Street, Milwaukee, is director of the work.

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In Iowa the usual publicity work is being carried on without the organization or supervision of a committee. It is conducted by Rex H. Fowler, Crocker building, Des Moines. It is probable that a committee will be organized shortly.

In Southern California work of a similar character, but confined to the electric light and power industry, is being carried on by the Bureau of Economics and research financed by some of the large companies. A movement is now on foot to include all classes of utilities in this work.

Since this article was written two other States have joined the movement. The New England Bureau of Public Service Information was organized on June 21st in Boston, Mass., and the Georgia Committee on Public Utility Information has been organized with offices at 324 Healey Building, Atlanta, Ga.

Those serving on the New England Committee are:

H. T. Sands, C. H. Tenney and Co., Boston, Chairman; C. L. Edgar, President, Edison Electric Illuminating Co., A. E. Childs, President, Massachusetts Lighting Companies; A. M. Barnes, President, Cambridge Gas Light Company; E. W. Longley, Vice-President, New England Telephone and Telegraph Company; C. S. Pierce, General Counsel, New England Telephone and Telegraph Company; H. G. Bradlee, Stone and Webster Corporation; E. A. Barrows, President, Narragansett Electric Lighting Company, and C. V. Wood, President, Spring-

field Street Railway Company. Another gas man will be appointed later.

On the Georgia Committee are:

George T. Smith, Augusta-Aiken Power Co., L. A. Magraw, Macon Railway and Light Company; and L. K. Starr, Director, Atlanta, Georgia.

Railway and Electric Co., Chairman, P. S. Arkwright, Georgia Railway and Power Co., Vice-Chairman; C. D. Flanigan, Athens Gas Light and Fuel Company; F. L. Marshall, Gas Light Company of Augusta; H. C. Foss, Savannah Electric Company; P. R. Bomeisler, Ware County Light and Power Co., L. A. Magraw, Macon Railway and Light Company; and L. K. Starr, director, Atlanta, Georgia.

The production and shipment of bituminous coal continues to be very low. A general disinclination to buy and provide necessary supplies is causing considerable apprehension, and the Interstate Commerce commission is suggesting the importance of securing as promptly as possible a reasonable reserve against the difficulties that will be present if later we get into a sustained period of so-called car shortage. The Association has so far been reluctant to make any definite recommendation on this subject until authoritative information as to the situation was available, but in view of the conditions reported to us and the grave concern that is being expressed, we believe that utility companies should give the matter the most careful consideration and not unduly defer the acquisition of reasonable coal stocks and reserves of coal.

Gas and Electric Associations' Representatives at the Atlantic City Meeting of the Chamber of Commerce of the United States



Reading from left to right: A. E. FORSTALL, Alternate National Councillor for the A.G.A.; J. W. LIEB, JR., National Councillor for the N.E.L.A.; GEO. B. CORTELYOU, National-Councillor for the A.G.A.

The Date of Our Annual Convention

Tuesday, November 8th, is **Election Day**, therefore the Executive Board has approved postponement of the opening session of the Convention to Wednesday, November 9th; accordingly the business sessions of the annual meeting will be held Wednesday, Thursday and Friday, November 9th to 11th inclusive.

Providence Pep



THE way to get something done is to do it. We don't know how long ago George Barrows nailed that homely maxim up over his looking glass but he has been a consistent observer of it for a long enough time to have more than passing faith in its force. So not long ago when the Men's



Club of the Grinnell Com-

pany in Providence decided it would like to learn something of the gas business, George found the ticket pinned on him. His idea was that a lecture well presented would be the thing; an actual demonstration of gas manufacture with practical apparatus would be better, but that a combination of those two would be best of all. And there came the rub, for model demonstrating apparatus is usually least available when most needed and difficult to provide at short notice. But Mr. Barrows has no corner on the pep that is in Providence, for when he talked to F. C. Freeman, Engineer of the Providence Gas Company, that gentleman failed to say: "It can't be done" or "it isn't practicable." Instead he remarked that it could be done and furthermore, that it would be done. And it was. Mr. Freeman, Edward H. Bauer, Engineer of Manufacture, and Chief Chemist Little, all of the Providence Gas Company and all A.G.A. men, joined hands and produced a gas plant, table size, which made up in practicability and simplicity whatever it may have lacked in conventional outline and appearance. The designer modestly referred to it as very simple and very crude but its simplicity was in fact a most desirable feature, for its purpose was to demonstrate the theory of water gas manufacture in the simplest and most easily understood way.

Mr. Little's description of the apparatus will be of interest:

"A small amount of water, 200 cc., is placed in the tar still, which acts as the boiler. Just enough steam is made to carry over into the calorized pipe. If any pressure is allowed to show on the gauge you are very liable to get condensed water in the calorized iron pipe thereby giving too much steam. I find by adjusting the burner under still so as just to keep the water at the boiling point and with Valve No. 1 wide open and Valve No. 2 either closed or slightly open I can get about the required amount of steam. A burner is placed under the outside end of calorized pipe to keep any steam from condensing out before entering the generator.

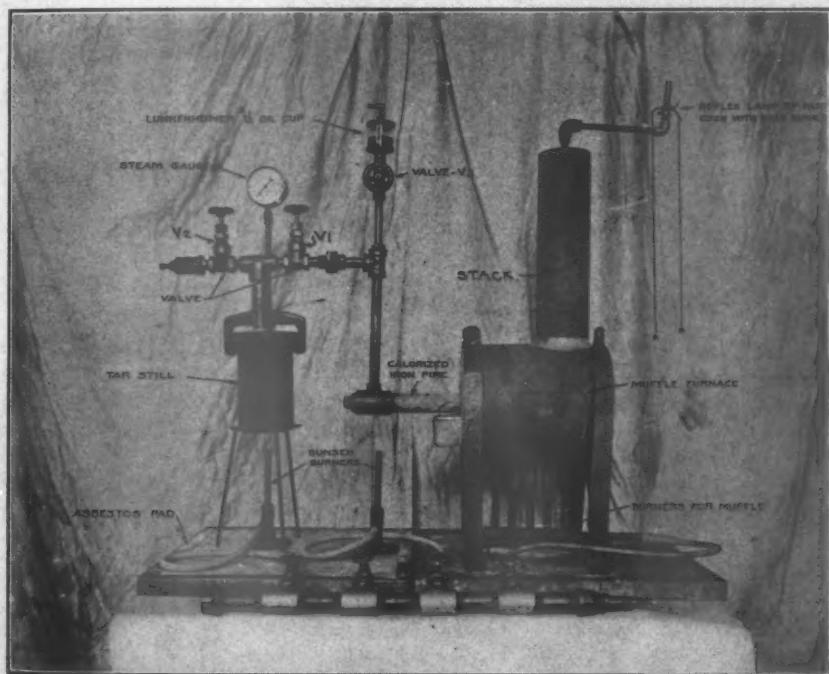
"Having filled the calorized iron pipe with charcoal, and having heated it externally by the burners shown and steam admitted as above, a blue gas flame about $\frac{1}{2}$ inch in diameter will burn at the Bray Burners. Trying this

A. G. A. MONTHLY

out in the laboratory I have been able to adjust my steam so as to have this flame burn continuously for over thirty minutes.

"The oil cup is for the purpose of demonstrating the effect of oil when added to blue water gas. Of course in this apparatus you really are adding your oil in the generator. The stack with the take off pipe inside is really a superheater. With this take off pipe and the calorized iron pipe, both made of vitreosil, you could obtain a much higher temperature and therefore improve your results."

Those who remember the Denver Convention of the National Commercial Gas Association in 1911 will recall the model apparatus constructed under the direction of Mr. A. F. Traver, which was used for demonstrating the manufacture of coal gas in conjunction with lectures on the subject. There is a fine opportunity for popular lectures of this character. Gas manufacture has been too much of a mystery and it is a subject which can be made of great popular interest if suitable demonstrating equipment is used. We hope to see more initiative in this direction and hope, too, that before long the Association will have available model apparatus for lecture purposes, demonstrating both the coal and water gas processes.



"The Spirit of Service"

A One-Reel Motion Picture Film, Prepared by the American Gas Association for the Use of Its Members.

THE news that our motion picture film entitled "The Spirit of Service" has been completed and is now ready for use, will be generally welcomed by the entire membership of the Association.

The film is about a thousand feet long and requires about fifteen minutes to run. It pictures SERVICE as the spirit and impelling motive of the industry by means of a well-knit story, sustained dramatic interest and a series of striking views full of action.

Devoid of any suggestion of commercialism or propaganda, the film deals with the human side of the business, emphasizing the fact that gas fires never go out and gas men never quit. It visualizes gas service as it is—a real, living, vital, flesh-and-blood thing—and by means of contrasts shows the great physical effort that is put into the manufacture of gas and then the ease, comfort and cleanliness which accompany its use. In a few minutes the film accomplishes what no amount of writing or talking could do.

Because of its educational character, "The Spirit of Service" is suitable for

presentation before every kind of gathering, public or private, business, political, religious, etc. No name, association or other, appears on the film and if the proper arrangements are made, it can be shown at motion-picture houses as part of the regular program. The picture is classed as legitimate entertainment and does not sell or advertise anything.

To assist our members in approaching the local managers of their picture houses and to show the various ways the film can be used in connection with community and company activities, we have prepared a helpful set of instructions which will be sent to anyone interested.

Prints of the film will be loaned free to members, except for transportation charges from New York to point of destination and return. As we only have a limited number of prints available, it is urged that those desiring the film for local use communicate with us at once in order that a shipping schedule may be arranged. Requests for loan of the film will be filled in the order of their receipt at Association headquarters.

The wealth of a great industry is in proportion
to the vision that it has in common.

GENERAL

CHAIRMEN OF GENERAL COMMITTEES ORGANIZED TO DATE

Accident Prevention—CHARLES B. SCOTT, Chicago, Ill.
Amendments to Constitution—WM. J. CLARK, Mt. Vernon, N. Y.
American Engineering Standards Committee, Representative on—A. H. HALL, New York, N. Y.
Award of Beal Medal—CHARLES A. MURRO, Chicago, Ill.
Caloric Standards—J. B. KLUMPF, Philadelphia, Pa.
Chamber of Commerce, Representatives in—GEORGE B. CORTELYOU, New York, N. Y.
Convention Program—J. B. KLUMPF, Philadelphia, Pa., G. I. VINCENT, Vice-Chairman, Syracuse, N. Y.

Cooperation with Educational Institutions—J. A. NORCROSS, New Haven, Conn.
Educational—WALTON CLARK, Philadelphia, Pa.
Finance—E. H. ROSENQUEST, Bronx, N. Y.
Gas Safety Code—W. R. ADDICKS, New York, N. Y.
National Fire Protection Assn., Membership in—W. R. ADDICKS, New York, N. Y.
Nominating—CHARLES L. HOLMAN, St. Louis, Mo.
Rate Fundamentals—R. A. CARTER, New York, N. Y.
Standard Gas Appliance Specifications—W. T. RASCH, New York, N. Y.
United States National Committee of the International Commission on Illumination, Representatives on—HOWARD LYON, New York, N. Y.

Proposed Import Tax on Oil

THE tariff bill reported by the Ways and Means Committee of the House on June 29th contains this significant clause: "Petroleum crude 35c per barrel of forty-two gallons; fuel oil 25c per barrel of forty-two gallons."

This portion of the bill took the country by surprise, as previous information from Washington was to the effect that oil would appear on the free list. Subsequent developments, however, show that the oil clause was inserted at the last moment after the bill had been printed.

The day the bill was made public, June 30, the Association urged all member companies using gas oil to lodge immediate protest with their representatives in Congress against the proposed oil tax and issued the following newspaper article for publication:

Officials of the American Gas Association today voiced strong opposition to the placing of a tariff on petroleum entering the United States, stating that it would add further to the cost of living by increasing the price of gas service to the consumer.

"Less than two years ago," said Oscar H. Fogg, Secretary-Manager of the Association, "many gas companies who are

members of this Association were notified by the oil companies whose customers they had been for many years that assurance could not be given of a continued and dependable supply of gas oil, a petroleum distillate largely used in the manufacture of artificial gas.

"It was stated at the time that the depletion of the oil supply of the country was becoming so serious as to threaten exhaustion in so far as the grades of oil used in gas manufacture were concerned, and many gas companies experienced great difficulty and in some cases found it impossible to negotiate new contracts for gas oil even at the prohibitive and unprecedented prices that then prevailed.

"Now it appears that a temporary condition of overproduction, together with what seems to be a temporary reduction in demand for gasoline and other petroleum products, has prompted an attempt to protect the market by placing a tariff on the importation of oil.

"The gas industry consumes annually about twenty-four million barrels of gas oil and such a tariff as that proposed would increase the price of this essential material and in turn would add to the living costs of thirty million people who depend upon gas which is manufactured in processes using oil."

Nominations for Officers and Directors

IN accordance with the By-Laws of the American Gas Association, the Nominating Committee, consisting of C. L. Holman, C. H. Nettleton, S. K. DeFrese, H. J. Long, A. P. Lathrop and W. Cullen Morris, has presented the following report for publication:

The Nominating Committee elected at the Second Annual Convention on November 16th, 1920, to nominate officers and directors of the Association to be voted upon at its next annual meeting has unanimously agreed upon the following nominations:

President, D. D. BARNUM, Boston, Mass.

Vice-President, R. B. BROWN, Milwaukee, Wis.

Treasurer, H. M. BRUNDAGE, New York, N. Y.

For members of the executive board—to serve two years:

GEO. B. CORTELYOU, New York, N. Y.

M. B. DALY, Cleveland, Ohio

F. H. KNAPP, Pittsburgh, Pa.

A. B. MACBETH, Los Angeles, Cal.

C. L. HOLMAN, St. Louis, Mo.

J. B. KLUMPP, Philadelphia, Pa.

A. H. HEWITT, Toronto, Canada

C. H. DICKEY, New York, N. Y.

Our first Nominating Committee of which President Munroe was the Chairman, in presenting its report for action at the convention in 1919, suggested that succession in office should not be established as a precedent in this Association, and in this view, your present committee concurs.

In order to obtain a full representative Board, the committee has selected nominees from widely separated localities, believing that such action would best serve the interests of the Association and will meet with the approval of the members.

C. L. HOLMAN,

Chairman, Nominating Committee.

THE CANADIAN CONVENTION

Don't forget your hotel reservations for the Canadian Convention. Headquarters, Windsor Hotel, Montreal, Canada, August 25th and 26th, 1921.

If you are wondering about your vacation, remember that the Association has arranged a special boat trip with the Canadian Steamship Lines, leaving Toronto August 23rd and proceeding via Lake Ontario, Thousand Islands and the St. Lawrence Rapids to Montreal.

ACCOUNTING SECTION

W. H. PETTES, Chairman

EWALD HAASE, Vice-Chairman

H. W. HARTMAN, Secretary

MANAGING COMMITTEE—1921

At Large

BRUNDAGE, H. M., New York, N. Y.
CONOVER, J. L., Newark, N. J.
DOERING, W. A., Boston, Mass.
FARRIS, E. J., (Mfr.) New York, N. Y.
HEIMS, J. W., Philadelphia, Pa.
JAMES, F. M., Aurora, Ill.
JOHNSTON, ERNEST, Syracuse, N. Y.
MCLEOD, J. E., St. Louis, Mo.
MEYERS, W. J., New York, N. Y.
SAUER, W. A., Chicago, Ill.
SCOBELL, E. C., Rochester, N. Y.
STERRETT, W. G., Chester, Pa.

Representing Affiliated Societies

ARMSTRONG, J. J., Toronto, Can. (Canadian)
CHAPIN, C. H. B., New York, N. Y. (Empire State
G. & E. Assn.)
EATON, H. M., Detroit, Mich. (Michigan)
HAASE, EWALD, Milwaukee, Wis. (Wisconsin)
HOUGHTON, W. E., Los Angeles, Cal. (Pacific Coast)
HOY, CHAS. W., Glasboro, N. J. (New Jersey)
JAMES, F. M., Aurora, Ill. (Illinois)
MAYNARD, H. B., Waterloo, Iowa (Iowa)
McCABE, J. B., Dallas, Texas (South Central)
NORTON, W. F., Nashua, N. H. (N. E. Gas Eng.)
PORTER, EDW., Philadelphia, Pa. (Pennsylvania)
SHEARON, B. P., Hammond, Ind. (Indiana)
SPENCE, GEO. H., Fayetteville, N. C. (Southern Gas)

CHAIRMAN OF SECTION COMMITTEES ORGANIZED TO DATE

Fire Insurance Rates—E. C. SCOBELL, Rochester,
N. Y.
Job Order Systems—F. M. JAMES, Aurora, Ill.
Office Labor Saving Devices—J. L. CONOVER,
Newark, N. J.
Continuous Inventory of Fixed Capital—ERNEST
JOHNSTON, Syracuse, N. Y.

Standard Classification of Accounts and Form of
Annual Report to Public Service Commissions—
W. J. MEYERS, New York, N. Y.
State Representative—EWALD HAASE, Milwaukee,
Wis.
Uniform Accounting Nomenclature—W. A. SAUER,
Chicago, Ill.

Good Will and Collections*

JOHN L. CONOVER,

Public Service Gas Co., Newark, N. J.

A FEW months ago, at a gas men's meeting, in which the subject of collections came up for discussion, the opinion was advanced that the smaller gas companies would profit if they would more generally avail themselves of the collection systems developed by some of the larger companies.

This thought opens up a multitude of considerations concerning the collection problems of the small as compared with the large company—considerations which must touch upon such subjects as good will, executive management, accounting, relations with the public, cooperation with employees, instruction of employees, and others of like import. For all these have a distinct bearing on collection results, and

the necessity of studying them and exerting effort to improve along these lines as an aid to collections, becomes increasingly imperative with the growth of the gas company. We can encompass all these things by saying that the successful gas company must do business in a friendly way—that a feeling of mutual good will must course right down through the arteries of the business, from behind the door with the gold letters through the men who carry the flashlights, and into the homes and businesses of the public.

The burden of carrying on, the missionary work to establish this feeling of mutual good will between the public and the company is upon the company itself. If a company neglects its oppor-

* Paper read at the meeting of the New Jersey State Gas Association, January 21, 1921.

tunities to improve its good-will, collections will suffer.

I am taking the liberty of enlarging on this subject through the easy medium of an allegory—and I am keeping an eye on collections.

We shall consider the evolution of a gas company in a small country town. The manager of the company knows everyone in town by his first name and everyone knows the manager. The manager has two men to index the meters and collect the accounts. He daily keeps in personal touch with these men, advises and instructs them, and personally analyzes the few delinquent accounts. The men who work for the manager have been selected because the manager had known them for years. It is a foregone conclusion that they will make friends for his company. In fact, each consumer on their routes will become so accustomed to the regular visits of these same men that a mutual feeling will be created.

At this stage of the town's growth, for a consumer to default in the payment of a gas bill would mean little short of a social stigma, and the manager of the gas company would feel a deep personal reluctance in being compelled eventually to remove the meter of a consumer he knows personally. So there is little likelihood that a consumer will default in the payment of debts owed the company, just because of carelessness or lack of good character.

Gradually the small town begins to develop. More men are employed to index the meters and collect the accounts. The manager's responsibilities have increased and he doesn't find as much time to scan the accounts and coach the

collectors as he formerly did. New inhabitants have located in town and new enterprises have sprung up which take from the manager the men he personally had trained, because he feels that he cannot meet the wages offered by others. Collectors come and go in the gas company's employ and finally it becomes necessary to delegate to another the work of hiring and training them, as the manager's duties have broadened and increased. Possibly by now he finds it necessary to work in a private office and in doing this he becomes more inaccessible to his men and recedes further away as a personal factor in dealing with the consumers. In fact, his precious time now can only be claimed by the larger industrial consumers.

New elements have been attracted into town by its industrial awakening. Some of these people don't seem to regard the paying of a gas bill as an obligation. They often move away without notice and the company must charge off the unpaid accounts to bad debts. It has even become necessary lately to use a printed form to list the unpaid accounts each month. The company is required to serve the new as well as the old, so it is decided that the best thing to do is to require deposits under certain conditions. More and more the administration of the company's affairs is done through the medium of printed forms and with the help of many subordinates. Collecting the company's revenues, once more or less of a social pastime, is now a subject for thought and research. The company now has a high percentage of delinquent accounts each month and an increasing amount to be charged off periodically

to bad debts. The manager concludes that the situation calls for a system.

It is peculiar how times change, the manager reflects. In the old days Bill and Harry used to make their rounds, collect every cent, and leave everyone feeling kindly disposed toward the company. Not only did they get around the route with just the right kind of methods but they got around to each consumer at the same time each month. People came to expect them at a certain time each month, always had their money ready, and Bill or Harry always turned up. Now it is necessary to install a system to supplement the efforts of the Bills and Harrys of today.

So the manager inaugurates a new system as an auxiliary of the efforts of the collectors. When a bill is unpaid, the bookkeepers are required to mail to the consumer a little printed notice which states that a remittance is due the company but that the consumer has undoubtedly overlooked it. This notice is very polite but it is a printed form and the consumer knows that it has been sent to him only because some clerk of the company has mechanically carried out one of the company's rules. Very often this notice is ignored. In such a case another one is sent, sometime later. This possibly refers to the fact that payment has once before been requested and is just a little more direct in its direction. Still the consumer isn't impelled to any action—after all, it's a printed notice. Later the company sends another notice. There is no mistaking the meaning of this—the account must be paid or the supply of gas will be discontinued. Even though this notice is printed and is sent only because some clerk of the company has

carried out one of the company's rules, the company loses a friend, for if the consumer doesn't feel obligated by a just debt, naturally he does not hesitate to call the company bureaucratic.

But, the manager argues to himself, the bill must be paid and the company has treated this customer the same as we would any other that had become delinquent in payment. So the procedure was justifiable. Yes, but the manager turns the subject over and over in his mind and realizes on comparing the present results with those obtained in the old days and by the old methods that something has happened during the evolution of the gas company—the company has lost the personal touch and relied too much on a system; he realizes too late that in the old days, to the majority of the people, Bill and Harry were the gas company and it was a good gas company, because Bill and Harry were fine types of employees.

And so I believe that if a company can retain the public's friendship through the period of its growth it will be doing remarkably well and the achievement will be reflected in the collection situation. It certainly cannot retain that friendship if it conducts its business in a lethargic way, allowing itself to be controlled by inevitable tendencies. By its own initiative it must meet the issues it knows will develop—not wait until they have assumed the proportions of a problem. While it is growing it must continually remember its excellence as a small company and never be satisfied if it lapses from that excellence—or the penalty will be a collection problem.

I believe instead of paying too much attention to collection systems, the

manager should so arrange his duties as to come in personal touch with as many of his customers as possible; next he should fit himself so as to be able intelligently to select, train and hold his collectors.

One of the very first essentials to a successful collection situation is that we shall be able to select the right men for collectorships. In selecting collectors we should determine whether the applicant is qualified to perform the duties of a collector, whether he is honest and is seeking the position with the intent of remaining with the company. Too often, I am afraid, we engage men who, while they have all of the qualifications necessary to make good collectors, are seeking only temporary positions. It is costly and discouraging to be instructing new men continually.

The next essential to a successful collection situation is that those in charge possess the ability to train properly the men employed for collection purposes. To do this, it is obvious that those in charge must have a thorough knowledge of the commercial side of the gas business and not only this, but they must be able to impart this knowledge to their collectors in a way that will cause them not only to understand but retain it as well.

When the knowledge of collection work has been imparted and instructions given to guide the collector in his duties, the manager must be unflagging in his zeal to see that those instructions are carried out.

Too often when conditions have developed that are not what they ought to have been the manager is confronted

with the explanation, "I issued the proper instructions—I can't do all of the work myself," or words to that effect. It is true that no one man in an office can do all the work, nor is he expected to, but the man who has authority to issue instructions is charged with the responsibility to see that his instructions are properly executed.

The last and also a very important essential to a successful collection condition is that we should be able to hold our collectors. As previously stated, we should endeavor in selecting our collectors to determine whether or not it is likely that they will remain with us, and, so far as it is possible, to employ only those whom we feel satisfied will stay with us. To a great extent we are dependent upon our collectors for the friendship of the public. Get men like Bill and Harry of the old days and you won't have to worry about collection systems.

The conditions under which the men work should be made as congenial as possible, and the system of promotion should be such as to reward those collectors first who have produced the best results. We should not get into the rut of keeping a collector at collections just because he is good and we feel that we cannot afford to lose him as a collector. The man would soon realize that there was nothing ahead of him but a collectorship and would have little incentive to produce good results.

We should demonstrate to our men that there is something better in store for them if they prove their worth as collectors, and not only the men will be benefited, but the company as well.

Open Forum at Convention for Discussion of Accounting Subjects

A MEETING of the Papers Committee, of which Mr. Ewald Haase of the Milwaukee Gas Light Company is Chairman, was held in the Peoples Gas Building, Chicago, March 17th, to decide on the papers program for the Accounting Section. While it is too early to speak definitely of the program at this time, members will be interested in an unusual feature decided upon for the 1921 sessions. This involves the setting aside of one entire session (or as much of one session as the formal program will permit) as an open forum for the discussion of such accounting subjects as the members desire to introduce or wish to have considered for incorporation in the Section's program for the next year. It was the feeling of the Committee that frequently members are confronted with problems in their work during the year which are not covered by any of the committee reports or papers on the formal program and for the discussion of which no specific time is usually available. The open forum will afford an opportunity for the introduction of such problems and members should take full advantage of this opportunity to secure the consideration and advice of the largest gathering of gas company accountants and managers of the year.

It is the hope of the Managing Committee that this Session will also be the means of facilitating a larger interest on the part of all the members in the preparation of the program for the ensuing year. It is no easy task for a committee of ten or twelve men to de-

cide on the subjects of most importance to the industry and which should be developed for presentation to the members, some of whom must come a long way to attend the Convention. This task can be greatly lightened and a program provided more representative of the needs of all sections of the country if the members will present fully at this session the subjects which from their standpoint and experience should be included in the committee work or papers planned for the ensuing year.

Lastly it is intended to make this session as informal as possible,—a means for the accounting members getting better acquainted and a little closer together in a free discussion of the problems common to all. It is hoped particularly that representatives of the smaller gas companies who have not taken a large part in the proceedings of the past, will bring up for consideration the problems peculiar to companies of their size. There will be many representatives present principally interested in such problems and the Committee is very sincere in its effort to encourage their consideration and solution.

The Committee has also definitely arranged for the program a paper on Office Personnel by Col. W. H. Rogers of Patterson, N. J., a paper on Form of Monthly Production Statement by H. T. Hughes of Denver, Colorado, and an address on the Federal Income Tax by H. W. Forbes of Sherman & Sterling, New York City. Further details of the program will be announced when de-

finitely arranged for but in the meantime Mr. Haase or Mr. Pettes will be glad to receive your suggestions as to topics for discussion at the open forum. This will be *your* session and its usefulness will depend on the enthusiasm and spirit you bring to the discussions.

Committee on State Representatives.

The above Committee has again been active this year in bringing to problems presented by our members the combined experience and advice of gas accountants in the different states and sections of the country. Its sub-committee on papers has not only provided an excellent program for the Convention but has secured the several articles which have appeared in recent issues of

the Monthly on accounting and commercial office subjects.

Many of our members are making good use of the service the Committee provides, and have received complete information on a variety of subjects, including Public Service Commission rules on deposits, general practice of gas companies in charging off to merchandise sales material returned to stock for non-payment, continuous meter reading practice, etc. The Committee offers a splendid opportunity to secure the experience and advice of accountants throughout the industry whose problems are identical with your own. Are you making full use of this service?

RATE RESEARCH—October 25, 1917

Public Service Commission of Oregon on the Electric and Water Utilities of the City of Eugene, Oregon, May 26, 1917. Page 51.

"Whatever may be the result of other features of a comparison between municipally owned and privately owned plants, the item of taxes should be given proper consideration. For the fiscal year ending June 30, 1916, all privately owned electric and water utilities in this state contributed 8.65% of their revenues (gross) in taxes. The two electric utilities covering the greater portion of the Willamette Valley show an average tax in such territory of 11.9% and the largest water utility, 12%. These taxes are paid for such protection and security as the laws of the different subdivisions of the government can offer. The present plan of taxation frees the municipally owned plant from payment for this protection, and the burden of this exemption falls ultimately upon the community at large.

"From the above statistics it may then be stated as a general proposition that a municipally owned plant in a large sized community in Oregon must have a rate, roughly averaging 10% below that of a privately owned plant, in order to give the same general result to the ultimate consumer."

ADVERTISING SECTION

M. C. ROBBINS, Chairman

A. A. HIGGINS, Vice-Chairman

CHARLES W. PERSON, Secretary

MANAGING COMMITTEE—1921

At Large

CLARK, WM. J., Mt. Vernon, N. Y.
ELSMAN, RALPH, Brooklyn, N. Y.
HANLAN, JAMES P., Newark, N. J.
MULLANEY, B. J., Chicago, Ill.
MACSWEENEY, JOSEPH P., Rochester, N. Y.
PETTINGILL, ANDREW F., Jr., Cambridge, Mass.
WAGNER, F. H., Baltimore, Md.
WARNER, GEO. H., New York, N. Y.
WELSH, WILLIAM J., Stapleton, N. Y.

Representing Affiliated Societies

ALLEN, GEO. W., Toronto, Can. (Canadian)
BURNS, J. J., St. Louis, Mo. (Missouri)
CARRAWAY, LEAKE, Norfolk, Va. (Southern)
CHAPIN, C. H. B., New York, N. Y. (Empire State
Gas & Electric Association)
FRANKLIN, S. J., Millville, N. J. (New Jersey)
FUGATE, FRANK, Detroit, Mich. (Michigan)
GOULD, WM., Boston, Mass. (N. E. Gas Eng.)
HARTOG, JOHN H., Portland, Ore. (Pacific Coast)
JASPERSON, R. O., Chicago, Ill. (Wisconsin)
LESTER, F. M., Chicago, Ill. (Illinois)
ENGLISH, A. L., Council Bluffs, Ia. (Iowa District)
MULHOLLAND, S. E., Fort Wayne, Ind. (Indiana)
ROLSTON, R. J., Philadelphia, Pa. (Pennsylvania)

Advertise!

WHO ever thought of Robinson Crusoe as a successful advertiser? Yet he was, as history proves. He knew what he wanted—a ship—and he put up an ad. for one. He flung a shirt on a pole at the top of his island; that, in the language of the sea, was plain to every sea-faring man.

The circulation was small—there was no other medium—but Crusoe kept at it, despite the fact that he got no inquiries for a long time. He changed his copy—as one garment after another was frayed out—and in the end got what he wanted.

But had he taken down that signal after a time and declared "Advertising doesn't pay," where would Crusoe and his story be today?

The gas man knows or should know what he wants: it is the good will of every customer on his books. With this asset in his possession, all other things will generally come of themselves.

But although the gas man is willing to

admit this, he is not so eager to recognize the value of advertising both from a public relations and a new business standpoint. Furthermore, he is not now advertising to the extent that he should; nor is he supporting his home newspapers and local job printing plants as he should. All this has a very important bearing upon the company's prosperity and its standing in the community.

Our trans-Atlantic cousins in the gas business have been preaching the gospel of advertising with undiminished vigor for several years and the results, it is said, have fully repaid all effort put forth in that direction.

"We have been building on what may be truthfully called a century old monopoly," says the British Commercial Gas Association in discussing the subject. "We supply a national need and stand for a great public utility service which is in many respects unique. Of course, the very strength of our position has been a

source of weakness, as a monopoly is only safe when resolutely chained to good service and the steady building up of good will, and we fear that in too many instances these have been conspicuously lacking. Without labouring the point this accounts for the remarkable fact, not otherwise understood, that the Gas Industry never really prospered until active, serious, virile electrical opposition stirred it out of the lethargy and indifference to public need and public opinion which had been engendered by old-fashioned monopoly methods. A truer aphorism was never penned than the stale old statement, 'Competition is the life of trade.' We have certainly proved that it is so in the gas industry, and although some even now do not realize it, the coming big fight will further emphasize the necessity for refusing to be bound by tradition no matter how venerable, or to be shackled by practices in business, as in manufacturing processes, which only command respect because of their antiquity. We must resolutely face modern problems with enlightened and up-to-date business methods and ideas, and resolutely seek to open up larger and more fruitful fields for development."

To no less an extent must the gas companies in America "resolutely face modern problems with enlightened and up-to-date business methods and ideas," and one of the surest result-producing ways of doing it is to bring the light out from behind the bushel and advertise.

We believe that all publicity to be truly successful and worthy of any honorable industry, must be meticulously truthful and honest. We believe, also, that if publicity measures up to this standard and is backed by good service, it will reap its fullest possible harvest. Publicity, as we

mean it here in a somewhat restricted sense, includes paid advertising and such articles for free publication as contain sufficient news value to warrant their insertion in the reading columns of a newspaper. The mere fact that a company advertises, however, does not make it obligatory for the editor to accept articles for publication, no matter how important they may appear, because the news columns are separate and distinct from the advertising columns as are the news and advertising departments. To ask a newspaper editor for a donation of free space, therefore, is to ask him to violate the ethics of his business and to give you something for nothing. The gas man has no more right to request this than the editor has of asking the gas man for free gas.

The fact is, however, that the editor will give you a square deal if you are an advertiser and support him as you should other local merchants; and it never should be necessary to beg for free space or to have any difficulty in obtaining fair treatment from him. These things should come spontaneously.

Every utility manager should patronize his local newspapers and should gain and hold the esteem of his local editors. It is equally important, also, that the job printing plants in a town should be patronized by the utilities in that town to the same extent that other merchants are supported.

Recently the Public Utility Information Bureau of Oklahoma brought this subject to the attention of utility managers in the following manner:

"You cannot reach a better understanding with the public unless that public knows something of your problems and the importance of your business to its

continued welfare and progress. Your home people understand very well the functions and importance of the bank or ordinary business concern in their community. These lines of business advertise in the local newspapers and the editor, in consequence, feels that they are a vital part of the life of the community. The people, by constantly reading these advertisements, become familiar with the problems of their local business concerns and this understanding tends to create a feeling of fellowship and good will.

"The community in which you operate is absolutely dependent upon your service, or the service of some other utility performing a similar function. You too, however, are dependent upon your community for good will and co-operative patronage. Many utilities are dependent upon their local communities, or the state in which they operate, for the finances with which they conduct their business.

"There is every reason, therefore, why every utility should make confidants of the people of its community through the local press. Modern conditions make the newspapers the best possible source through which to reach your local people.

"If you advertise, your community will soon come to look upon you as a part

of its commercial life and feel as kindly toward you as it does toward the bank, and its various mercantile establishments. Then when you have real news relative to your business, the local editor will be glad to give it free space, and when you have difficulties and are frank to explain them, the editor and the public will give you a square deal.

"Some of our Oklahoma utilities follow the policy suggested in this letter and advertise to the extent of their financial ability, but every public utility company, no matter how small or big, should follow this policy."

We wish that every gas company member of the A. G. A. would follow the advice given by the Oklahoma Committee and make an appropriation for advertising.

Having done this, we wish that every company would support and become a booster for its local publishers and editors, for therein lies one of the solutions to the good-will problem confronting the industry. Advertise, if only a little, but advertise persistently. Don't take down your signal once you have it put up. Follow the worthy example set by Robinson Crusoe and eventually, perhaps sooner than you anticipate, you will get what you want, just as he did.

How to Advertise

"You can accomplish anything by advertising. You can accomplish nothing by an advertising campaign We have all been scraping our chins every morning for years—but the effect does not last. Advertising is like that. It is a matter of repetition. Of convincing a man once, and convincing him again. Say it. Repeat it. Then repeat it again. The human mind wabbles. Keep it wabbling your way."—Harford Powel, Jr., Editor of Collier's.

THE A. G. A. GOOD-WILL ADVERTISING SERVICE
Advertisement No. 14



On the Job

Home again, dusty with travel, tired, hungry. "Something to eat—quick," and you turn to the kitchen range. A match, a twist of the wrist, and there it is, the same old reliable and efficient gas!

Yes, and it has been there waiting for you all the time, ready to respond instantly to any demand you make upon it.

Tomorrow you will call upon us again for service, but you will give us no warning from hour to hour just what your requirement will be. Yet the gas will be there, plenty of it at all times, ready to be used in large or small quantities as you see fit, and to be paid for after you have used it.

Again our willingness and constant readiness to serve you!

To us it means having gas on tap, 24 hours a day, 365½ days a year, whether you use it or not.

Have you ever thought of it in this way?

(Insert the name of your Company here)

MEMBER OF THE AMERICAN GAS ASSOCIATION



This advertisement is issued in two sizes, three and four-column newspaper width. The art design is good for a number of impressions. You may change the text if you desire.

PRICES.

	3-column matrix	4-column matrix	3-column electro
Single advertisement	\$ 3.00	\$ 3.00	\$ 4.00
Twelve advertisements (Nos. 13 to 24)	\$36.00	\$36.00	\$48.00

THE A. G. A. GOOD-WILL ADVERTISING SERVICE
Advertisement No. 15



Peak of the Load

It comes at the breakfast, luncheon and dinner hour. The demand is sudden, tremendous.

"Peak of the load," says the gas engineer. "What a convenience," comments the housewife. And both refer to the biggest service problem in the public utility business.

To get gas service when, where, and how you want it without warning, without telephoning for it, means that we must have "peak of the load" equipment to meet "peak of the load" demands.

This equipment is costly. It takes a lot of money to keep it in good condition, ready at all times to serve you. And the maximum number of men must be employed to operate it whether the call comes or not.

Vital things, these. And they must be paid for if you are to get the gas service you demand, in the way you demand it.

Think it over.

(Insert the name of your Company here)

MEMBER OF THE AMERICAN GAS ASSOCIATION



This advertisement is issued in two sizes, three and four-column newspaper width. The art design is good for a number of impressions. You may change the text if you desire.

PRICES.

	3-column matrix	4-column matrix	3-column electro
Single advertisement	\$ 3.00	\$ 3.00	\$ 4.00
Twelve advertisements (Nos. 13 to 24).....	\$36.00	\$36.00	\$48.00

Our New "Chat" Advertisements

ON the opposite page we show three single-column, unillustrated advertisements that we have chosen at random from a set of twelve already issued in proof form to our company members.

This new service is a supplement to and not a departure from our regular good-will advertising service and it has been established at the request of many companies whose advertising appropriations will not permit of the use of three or four-column newspaper space.

Advertising men in the gas business who have examined the first twelve "chat" advertisements are unanimously in favor of them, one man going so far as to state that the series "is far and away the best effort of the kind ever undertaken by the associated gas industry." The purpose of these little advertisements is clearly stated in the first one, part of which says: "We want these advertisements to be in the nature of friendly talks between us. Our purpose in this is to tell you certain facts about our business that will, we believe, clear away many misunderstandings." The subjects then taken up deal for the most

part with service problems common to every gas company.

The familiar and friendly tone of these small advertisements is a striking departure from so-called "corporation advertising" and when published frequently, on the average of one advertisement each week in a preferred position in the newspaper, they can not help but create a kinder and more sympathetic understanding of the gas man's business and the problems that beset him.

With proof of the first series of the "chat" advertisements we have issued full instructions as to their use and if any member of the industry who is interested in advertising has not received this circular matter he should write for it immediately.

The plans at present are to prepare a new set of twelve advertisements every three months to enable companies to publish them on a schedule of one each week. Matrices will be furnished on a cost basis to companies whose local papers can use them. Where this cannot be done, the newspapers can follow the type style in the proofs.

Business Men Lunch at Gas Plants

Several gas-company executives have recently tendered luncheons to local business organizations, such as Rotary and Kiwanis Clubs, at their plants. Mr. A. A. Higgins of the Providence Gas Company and Mr. B. B. Ferguson of the Portsmouth, Va., Gas Company, say that their luncheons to business men have been notable successes. In both cases the visitors were conducted through the plants and the manufacturing end of the gas business was fully explained to them.

CHATS WITH YOUR GAS MAN

Whenever a gas bill is abnormally large there is some satisfactory and complete explanation for it, when all the facts and circumstances connected with the case are known.

For instance, when you find a sudden or unusual increase in your bill, ask yourself:

Has the weather been to blame?

Has there been sickness in the house?

Have I had company during the period?

Have the servants or others used more gas than I am aware of?

Have any additional gas appliances been installed during the period?

Are there any other circumstances or occurrences that will account for the increase in my bill?

If you recall no reason come to us first (do not go to your neighbors) and we will do our utmost to help you locate the cause. If we find that a mistake has been made we will cheerfully correct the error. We are here to serve you.

Insert Company Name Here

CHATS WITH YOUR GAS MAN

People speak of their public utilities (their gas, electric light, street railway and telephone companies) as "they," and of the men who work for them as "those men." Why not say "we," a friendly little word would serve to bring us all closer together!

And why shouldn't it be "we"? Because whether we are stockholders or not, we are part owners of these necessary public servants, through the investments of trust companies, banks and insurance companies.

Yet how few of us think of this! Not one citizen out of a hundred realizes that in one form or another his actual savings and insurance and his wife's and children's welfare depend upon the prosperity and continued operation of the public utilities!

No need for sentiment here. The question is one of direct self-interest; of dollars and cents, our savings! So that when we see to it that our public utilities are kept in a healthy condition, we are doing the most natural thing in the world—we are merely protecting our own money.

Insert Company Name Here

CHATS WITH YOUR GAS MAN

The other day a friend said to us: "Why should you advertise? You get all the gas business there is."

We are glad he asked this question. Perhaps you, too, would like to know why. Here is our answer:

It is not sufficient that we merely give good service, be courteous and make friends. We want to dispel prejudice and misunderstanding from the minds of the public by continually stating the facts about our business.

We believe it our duty to let the public know the real nature of our business and the aims and ideals of the men engaged in that business. There is no mystery about it, nothing that we would wish to cover up. Then why not advertise it?

Like the man on the witness stand we can say: "It's the easiest thing in the world to tell the truth when there is nothing but the truth to tell."

Insert Company Name Here

Getting Acquainted

Mr. T. R. Beal, president of the Central Hudson Gas and Electric Company, recently gave an address before the Catskill, N. Y., Chamber of Commerce on gas and electric development in the Central Hudson Valley. This is but one of a number of talks he has given to business men in the various communities served by his company. Mr. Beal believes in getting acquainted with his consumers.

Associations Affiliated with A. G. A.

Canadian Gas Association

Date of Affiliation—Mar. 25, 1919
 Pres.—C. S. Bagg, Montreal
 V.-Pres.—E. H. Caughell, St. Thomas, Ont.
 2d V.-Pres.—Col. D. R. Street, Ottawa, Ont.
 Sec.-Tr.—G. W. Allen, Consumer's Gas Co., Toronto
 Conv., Aug. 25 and 26, 1921, Montreal

Empire State Gas & Electric Association

Date of Affiliation—Nov. 21, 1919
 Pres.—H. W. Peck, Adirondack Pr. & Lt. Corp., Schenectady, N. Y.
 V.-Pres.—C. G. M. Thomas
 Tr.—E. H. Rosenquest
 Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.

Illinois Gas Association

Date of Affiliation—Mar. 19, 1919
 Pres.—H. H. Clark, 325 Peoples Gas Bldg., Chicago, Ill.
 Sec.-Tr.—R. V. Prather, DeWitt-Smith Building, Springfield, Ill.
 Conv., 1922

Indiana Gas Association

Date of Affiliation—Apr. 24, 1919
 Pres.—Morse Dell Plain, No. Indiana Gas & Elec. Co., Hammond, Ind.
 Sec.-Tr.—E. J. Burke, Citizens Gas Co., Indianapolis, Ind.
 Conv., 1922

Iowa District Gas Association

Date of Affiliation—May 21, 1919
 Pres.—C. N. Chubb, United Light & Rwy. Co., Davenport, Ia.
 Sec.-Tr.—H. R. Sterrett, Des Moines Gas Co., Des Moines, Ia.
 Conv., 1922

Michigan Gas Association

Date of Affiliation—Sept. 18, 1919
 Pres.—J. W. Batten, Detroit City Gas Co., Detroit, Mich.
 Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.
 Conv., 1921

Missouri Association of Public Utilities

Date of Affiliation—June 18, 1920
 Pres.—H. Spochrer, Union Elec. Lt. & Pr. Co., St. Louis, Mo.
 Sec.-Tr.—F. D. Beardslee, 315 N. 12th Street, St. Louis, Mo.
 Wiley F. Corl, Chmn. Affiliation Com., Missouri Utilities Co.; Mexico, Mo.
 Conv., 1922

New England Association of Gas Engineers

Date of Affiliation—Feb. 19, 1919
 Pres.—Burton Smart, Portland Gas Lt. Co., Portland, Maine
 Sec.-Tr.—J. L. Tudbury, Salem Gas Light Co., Salem, Mass.
 Conv., 1922

Gas Sales Association of New England

Date of Affiliation—Oct. 1, 1919
 Gov.—H. J. Pettengill, Jr., Blackstone Valley Gas & Electric Co., Pawtucket, R. I.
 Sec.—M. Bernard Webber, 67 Milk St., Boston, Mass.
 Annual Meeting, 1922

New Jersey State Gas Association

Date of Affiliation—April 25, 1919
 Pres.—H. H. Newman, Public Service Gas Co., Trenton, N. J.
 Sec.-Tr.—H. E. Mason, Consolidated Gas Co. of N. J., Long Branch, N. J.
 Conv., 1922

Pacific Coast Gas Association

Date of Affiliation—Sept. 18, 1919
 Pres.—W. M. Kapus, Northwest Gas & Elec. Equipment Co., Portland, Ore.
 Sec.-Tr.—W. M. Henderson, 445 Sutter St., San Francisco, Cal.
 Conv., Sept. 20-23, 1921, Del Monte, Cal.

Pennsylvania Gas Association

Date of Affiliation—April 10, 1919
 Pres.—E. L. Smith, Towanda Gas Co., Towanda, Pa.
 Sec.-Tr.—Geo. L. Cullen, Harrisburg Gas Co., Harrisburg, Pa.
 Conv., 1922

South Central Gas Association

Date of Affiliation—Oct. 15, 1919
 Pres.—C. B. McKinney, 505 Scollard Bldg., Dallas, Tex.
 1st V.-Pres.—F. L. Weisser, San Antonio Public Service Co., San Antonio, Tex.
 2nd V.-Pres.—F. C. Armbruster, Southwestern Gas & Electric Co., Shreveport, La.
 Acting Sec.-Tr.—C. H. Seidenglanz, Dallas, Tex.
 Conv., Oct. 11, 12, 13, 1921, Shreveport, La.

Southern Gas Association

Date of Affiliation—May 20, 1919
 Pres.—L. I. Pollitt, Sumter Gas & Par. Co., Baltimore, Md.
 Sec.-Tr.—G. H. Smith, City Gas Co., Norfolk, Va.
 Conv., 1922

Wisconsin Gas Association

Date of Affiliation—Mar. 25, 1919
 Pres.—J. P. Pulliam, Wisconsin Public Service Co., Milwaukee, Wis.
 Sec.-Tr.—Henry Harman, 182 Wisconsin St., Milwaukee, Wis.
 Conv., 1922

OTHER ASSOCIATIONS

Natural Gas Association of America

Pres.—L. B. Denning, Pittsburgh, Pa.
 Sec.-Tr.—Wm. B. Way, 904-5 Oliver Bldg., Pittsburgh, Pa.
 Conv., 1922

Society of Gas Lighting

Pres.—Alex. H. Strecker, Newark, N. J.
 V.-Pres.—W. Cullen Morris
 Sec.—Geo. G. Ramsdell, 130 E. 15th St., New York, N. Y.
 Treas.—Wm. J. Welsh
 Conv., Dec. 8, 1921, New York, N. Y.

Southwestern Electrical and Gas Association

Pres.—A. Hardgrave, Dallas, Tex.
 Sec.—H. S. Cooper, Slaughter Bldg., Dallas, Tex.
 Treas.—J. B. Walker
 Conv., 1922

COMMERCIAL SECTION

H. S. SCHUTT, Chairman

A. P. POST, Vice-Chairman

LOUIS STOTZ, Secretary

MANAGING COMMITTEE—1921

At Large

ABBOTT, M. E., Taunton, Mass.
BARNES, CYRUS, Boston, Mass.
BARNITZ, F. R., New York, N. Y.
BARTHOLD, WM. H., New York, N. Y.
BENNETT, GEO. E., New York, N. Y.
DAVIES, J. E., Chicago, Ill.
GASTON, LUTHER, Lebanon, Pa.
GOULD, WM., Boston, Mass.
JELLIFFE, C. N., New York, N. Y.
HEWITT, ARTHUR, Toronto, Ont., Can.
KARR, A. M., Hamilton, Ohio
LEARNED, J. G., Chicago, Ill.
LEWKE, FRANK, Kalamazoo, Mich.
LOEBELL, HENRY O., New York, N. Y.
LONG, H. J., New Brunswick, N. J.
MYERS, J. B., Philadelphia, Pa.
POST, A. P., Philadelphia, Pa.
RUTLEDGE, F. J., Philadelphia, Pa.
SCHUTT, H. S., Philadelphia, Pa.
SHATTUCK, J. D., Chester, Pa.
SHERWOOD, J. M., New York, N. Y.
SMITH, CHARLES S., Philadelphia, Pa.
STEPHANY, E. J., Pittsburgh, Pa.
YOUNG, R. R., Newark, N. J.

Representing Affiliated Societies

BURKE, E. J., Indianapolis, Ind. (Indiana)
CHAMBERLAIN, G. R., Grand Rapids, Mich. (Mich.)
CHAPIN, C. H. B., New York, N. Y. (Empire State)
CLARK, H. H., Chicago, Illinois (Illinois)
COBL, WILEY P., Mexico (Missouri)
CRAFTS, H. C., Pittsfield, Mass. (N. E. Gas Eng.)
CRANKSHAW, J. WARD, Allentown, Pa. (Pennsylvania)
FLAATT, J. J., New Orleans, La. (South Central)
HANLAN, J. P., Newark, N. J. (New Jersey)
JOHNSON, W. B., Toronto, Ont. (Canadian)
MCARDLE, JAS., Macon, Ga. (Southern)
ST. JOHN, JOHN, Madison, Wis. (Wisconsin)
TAYLOR, W. H., Omaha, Neb. (Iowa District)
WEISS, FRANK, Los Angeles, Cal. (Pacific Coast)

CHAIRMEN OF SECTION COMMITTEES ORGANIZED TO DATE

Gas Lighting—F. R. BARNITZ, New York, N. Y.
Heating—GEO. E. BENNETT, New York, N. Y.
Industrial Fuel Sales—HENRY O. LOEBELL, New York, N. Y.
Industrial Fuel Contracts (Sub)—CHAS. S. SMITH, Philadelphia, Pa.

Customer Service—J. B. MYERS, Philadelphia, Pa.
Merchandising—H. J. LONG, New Brunswick, N. J.
Program—F. J. RUTLEDGE, Philadelphia, Pa.
Rate Structure—J. D. SHATTUCK, Chester, Pa.

From the Managing Committee

THE Managing Committee met at Association headquarters on June 17th at which time progress reports from the Commercial Section Committee Chairmen were received and approved and other matters pertinent to the Section's work were discussed.

The tentative program for the Commercial Section sessions during the November Convention, including provision for a joint session with the Publicity and Advertising Section was accepted and follows on the next page.

The omission from the program of any report from the Committee on "Customers' Service" is occasioned by the fact that this report will be presented before a general session of the Conven-

tion, under an arrangement whereby each Section will present one paper at a general meeting.

Window Display Service

The Managing Committee approved the preparation of a book on window displays to contain helpful suggestions to the window trimmer in the treatment of backgrounds, color schemes, decorations, layout and other necessary phases of displays and will include reproductions of a great variety of displays covering all types of appliances, seasonable and holiday displays, etc.

This window display collection book when completed will be offered to members at a nominal charge.

Tentative Program

of

Commercial Section Sessions

Wednesday afternoon—November 9th

Report of Chairman.....	H. S. SCHUTT
Report of Nominating Committee.....	COMMERCIAL SECTION
Report of Merchandising Committee.....	H. J. LONG, <i>Chairman</i>
Report of Gas Lighting Committee.....	F. R. BARNITZ, <i>Chairman</i>
Report of Heating Committee.....	G. E. BENNITT, <i>Chairman</i>

Thursday afternoon—November 10th

(Joint Session with the Publicity and Advertising Section)

Report of Chairman.....	M. C. ROBBINS
Report of Nominating Committee.....	Publicity and Advertising Section
Paper on "A Small Town Gas Man's Publicity Problem"	
	CARL B. WYCKOFF, Emporia Gas Co., Emporia, Kansas
Paper on "Merchandising Advertising"	
	JOHN H. HARTOG, Portland Gas & Coke Co., Portland, Ore.
Discussion	
Paper on "Water Heating"	
	ALFRED A. SCHUETZ, Milwaukee Gas Light Co., Milwaukee, Wis.

Friday afternoon—November 11th

Report of Industrial Fuel Sales Committee.....	H. O. LOEBELL, <i>Chairman</i>
Report of Industrial Fuel Contracts Committee.....	CHAS. S. SMITH, <i>Chairman</i>
Report of Rate Structure Committee.....	J. D. SHATTUCK, <i>Chairman</i>

Rate Structure

The Chairman, Mr. J. D. Shattuck, reported that the first meeting of his Committee, appointed to make a thorough study of the fundamental principles underlying rate structure and to make recommendations which will result in greater uniformity in our industry in scientific methods of rate making was held on June 9th at which time it was decided,—

1. That member companies be requested to give careful consideration to the form of rates schedules, and to the advisability of minimum charges and service charges, before considering rate reductions from those prevailing during the period of high costs and in line with the scientific development of rate systems, and that member companies be urged as strongly as possible to make careful analysis of their own accounts, for their own information and forward copies to the Committee for advice and assistance.

2. That member companies be requested through the special Information Service or otherwise to get in touch with the Rate structure Committee and advise the Committee of prospective reductions, so that any comments may be made as to desirable features to be developed in the individual case.

3. That a sub-committee be appointed at once to prepare an interim report which will (a) define the classes of rates going to make up the rate structure; (b) define the various classes of customer charges and so-called service charges; (c) the methods of allocating costs obtained under the Standard Classification of Accounts in order to determine such charges; (d) set forth reference to pertinent decisions; (e) set forth features that may well appear

in the schedules applying respectively to domestic, commercial and industrial schedules, including consideration of the principles of industrial service contracts.

4. That, in general, the opinion of the Committee favors the retention of present prevailing base or maximum rates by member companies, introducing systems of differentials, such as a flat price for the first 100 cubic feet of gas and a block system or two rate, two part rate or three part rate system as a means of reduction, such methods being preferable to horizontal reductions and prepare an interim report on recommended changes in forms of rates in the light of recent experiences, and on flexible methods of rearrangement of rates to follow the costs.

5. That the aforementioned sub-committee on plan of rates consider the unpublished 1916 N. C. G. A. Report of differential Rate Committee as a basic source of material in preparation of their reports.

The special sub-committee consisting of six members of the main Committee referred to in the above paragraph No. 3 met on June 17th and issued the first of a series of Bulletins which have been sent to member companies. Attention is called to this first Bulletin of the Committee, reproduced on pages 356 and 357, and members are requested to give this matter careful consideration.

Customer Service

This Committee headed by Mr. J. B. Myers will present its report at one of the general sessions of the November Convention.

The Chairman reported that gratifying progress is being made by the sub-chair-

(Continued on page 358)

Rate Structure Committee— Bulletin Number One

WHEN CONSIDERING RATE READJUSTMENTS, member companies are requested to give careful consideration to the form the new rate schedule will take, and the advisability of adopting a schedule of charges that will distribute all the expenses equitably among the various customers.

Member companies are urged to make a careful analysis of their customers' accounts both for their own information and for the assistance of the Rate Structure Committee. This Committee will be glad to furnish special advice and assistance where this is requested. A classification as per Schedule "A" attached is important to determine the rate structure.

Member companies are particularly requested to advise this Committee when contemplating changes in rates so that comments may be made as to desirable features in each individual case.

The Committee is preparing an analysis of the distribution of costs as allocated to the different schedules of charging. This report will be published upon its completion.

Any rate readjustments should recognize the justice of including the costs which do not vary with the quantity of gas used in a form of service or a customer charge or in the first block of the rate schedule. In short, any readjustment in rates should be with the view of developing larger sales through a more equitable rate structure.

Member companies, if considering readjustment of rates, should bear in mind that it is highly probable that the present price of gas oil is undoubtedly below average future charges for this material. In making any agreements with their local communities or State Commission, they should endeavor to secure flexibility in their rates so that upon immediate or short notice they can be readjusted to meet the then prevailing conditions. Car shortage, railroad congestion, labor agreements, etc., may materially affect the cost and supply of coal as well, and it is important to protect the companies against such variations.

A. G. A. MONTHLY

SCHEDULE "A"

RATE STRUCTURE COMMITTEE AMERICAN GAS ASSOCIATION

June 17, 1921

Cubic feet Monthly	MONTHS											
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0—												
500												
500—												
1000												
1000—												
2000												
2000—												
3000												
3000—												
4000												
4000—												
5000												
5000—												
7500												
7500—												
10,000												
10,000—												
20,000												
20,000—												
30,000												
30,000—												
50,000												
Over												
50,000												
TOTAL												

Indicate number of consumers for
each month in each class

Signed

Company

Address

Member Companies are requested to fill out the above schedule and return to
AMERICAN GAS ASSOCIATION, 130 East 15th St., New York.

Industrial Fuel Engineering Service

MR. W. A. Ehlers, of the A. G. A. headquarters staff, has been engaged recently by several companies in connection with their industrial engineering problems.

At Duluth, Minn. the city purchases coke oven gas from the Zenith Furnaces and distributes it for domestic and industrial purposes within the city limits. Mr. Ehlers was engaged by the city administration to advise on matters pertaining to their high and low pressure distribution system. He was also consulted with reference to the installation of a gas fired steam boiler in connection with the heating of the buildings of the Department of Public Works, involving approximately 6,000 square feet of direct radiation.

The Cedar Rapids Gas Company called in Mr. Ehlers for several days' service in connection with their larger industrial consumers. These included the Quaker Oats Company, Penick & Ford, large producers of molasses and starch products, and others. It is of special interest to note that the Cedar Rapids Company was particularly interested in having Mr. Ehlers visit their present large gas consumers in order to ascertain if they were getting adequate service and the best results in their utilization of gas.

This is a matter well worth considering by all managers of gas properties. A survey of the industrial uses of gas in many situations has revealed the fact that there are numerous "misfits" in the matter of proper application and use of gas fuel. Indeed, it is little wonder that gas is often pronounced unsatisfactory by the plant foreman, superintendent or engineer. This condition is often caused by improper utilization.

At Battle Creek, Michigan, the local gas company called on Mr. Ehlers for advice in connection with the utilization of gas in several large factories. These included the application of gas to vitreous enamelling, case hardening, and varnish boiling. A considerable amount of new business will develop as a result of the Industrial Fuel Engineering Service in this situation.

A survey was recently made by Mr. Ehlers of the industries in Kingston, N. Y. for the Kingston Gas & Electric Company. This survey was for the purpose of determining the amount of prospective industrial gas business in Kingston and the advisability of conducting an intensive campaign along this line.

(Continued from page 355)

men delegated to prepare the five sections comprising the report and covering accounting, manufacturing, distribution, new business and publicity.

Gas Lighting

Mr. Barnitz, Chairman, reported excellent progress by his Committee which will present a comprehensive report on the status of gas lighting and the report will

include many recommendations which will be most helpful to the industry as to ways and means for securing and holding this class of business.

Due to absence of the chairmen no reports of progress were offered by the other committees although they are all actively engaged on their reports which will be presented at the annual Convention.

MANUFACTURERS SECTION

GEO. S. BARROWS, Chairman

JOHN S. DeHART, JR., Vice-Chairman

W. W. BARNES, Secretary

MANAGING COMMITTEE—1921

At Large

BARNES, W. W., New York, N. Y.
 BARROWS, GEORGE S., Providence, R. I.
 BRUCE, HOWARD, Baltimore, Md.
 CONROY, J. P., New York, N. Y.
 CRANE, WM. M., New York, N. Y.
 DeHART, JR., J. S., Newark, N. J.
 GRIBBEL, W. GRIFFIN, Philadelphia, Pa.
 KOPFER, W. B., Brooklyn, N. Y.
 KNAPP, F. H., Pittsburgh, Pa.
 LEMKE, F. A., Kalamazoo, Mich.
 LOHMEYER, H. B., New York, N. Y.
 LONG, H. J., New Brunswick, N. J.
 McDONALD, DONALD, New York, N. Y.
 MUELLER, ROBERT, Decatur, Ill.
 NORTON, H. A., Boston, Mass.
 ROGER, GEORGE D., Rockford, Ill.
 SHERWOOD, J. M., New York, N. Y.
 STITES, TOWNSEND, Gloucester, N. J.

Representing Affiliated Societies

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Division of Accessories Manufacturers—J. M. SHERWOOD, Temporary Chairman.

Our prosperity is dependent upon the prosperity of those producing the gas utilized by our appliances—our interests are in common.

Section Notes

Definite plans pertaining to the 1921 Exhibition to be held at the Congress Hotel, Chicago, November 7th to 11th, have been completed and mailed to Manufacturer Company members.

Special Sales

For the benefit of manufacturers who are frequently writing Headquarters for the dates of "Special Sales," the report of the Committee on Special Sales Campaigns is printed for the balance of the year 1921.

A. G. A. MONTHLY

JULY

1st Week—GAS INCINERATORS

2d Week—

3d Week—

4th Week—

Three Piece Set Saucepans

How to care for the gas range

Sad Iron Heaters

AUGUST

1st Week—GAS STOVE LIGHTERS

2d Week—

3d Week—

4th Week—

Solid-top to Gas Range

Toasters

Fire Place Heaters

SEPTEMBER

(Also Feb.)

1st Week—GAS ROOM HEATERS

2d Week—

3d Week—

4th Week—

Reasons for variation in customers' gas
consumption at different seasons of
the year

Overhauling lighting equipment

Housepiping and Maintenance

New Lighting Equipment

OCTOBER

1st Week—GAS LIGHTING

2d Week—

3d Week—

4th Week—

How to care for Gas Lamps

Commercial Gas Lighting

Gas Table Lamps

NOVEMBER

1st Week—GAS LIGHTING FIXTURES

2d Week—

3d Week—CHRISTMAS GIFTS

4th Week—

Store Lighting

Christmas gifts

DECEMBER

1st Week—

2d Week—

3d Week—

For the four odd weeks in the year Service.

Christmas gifts

Christmas gifts

Christmas gifts



Congress Hotel, Convention Headquarters, Chicago, Ill.



Auditorium Hotel

Passage
Under
Congress St.
Permitting
Easy Access
From One
Hotel to
the Other

CHICAGO OUR CONVENTION CITY

NOVEMBER 7th, 8th, 9th, 10th and 11th, 1921

America's Most Centrally Located Metropolis
Easy of Access from Every Section of the United States

SOUND BUSINESS CONSIDERATIONS

The Greatest Good to the Greatest Number

THE CONVENTION

The Third Annual Convention of
THE AMERICAN GAS ASSOCIATION, Inc.

The convention that bids fair to excel in interest and importance any previous convention of this organization.

"EVERYBODY'S SHOULDER TO THE WHEEL" is the 1921 slogan to bring the GREAT GAS INDUSTRY back to the normal.

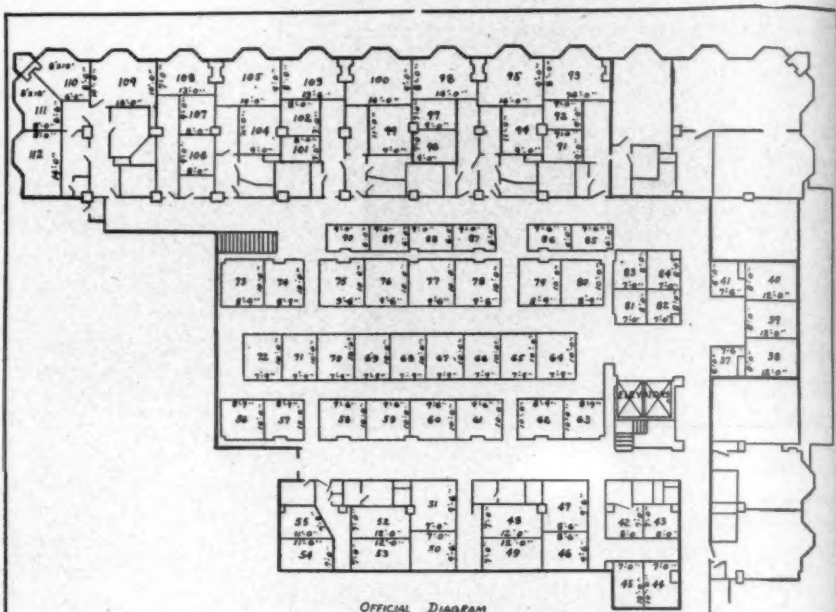
The program will be replete with addresses by men prominent in industrial affairs, papers and discussions on subjects pertinent to the vital problems of the

GAS INDUSTRY

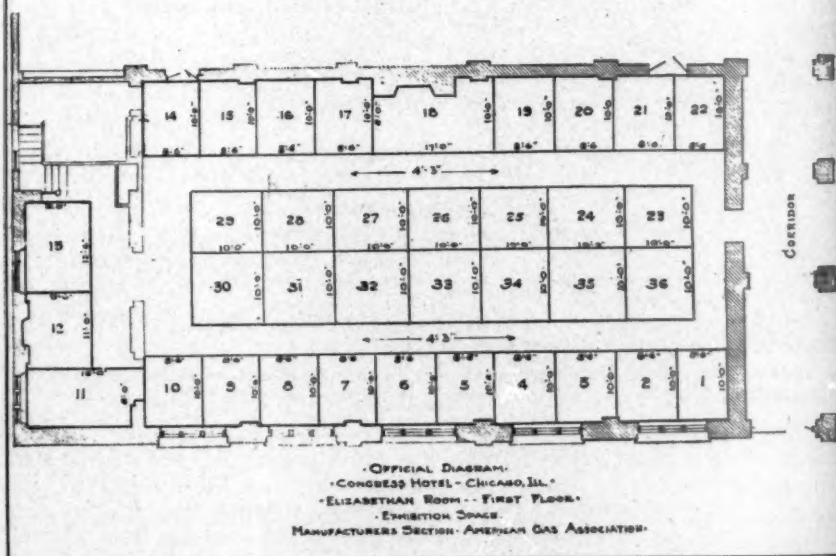
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OFFICIAL DIAGRAM
CONGRESS HOTEL, CHICAGO, ILL.
FLORENTINE HALL & ADJOINING ROOMS - SECOND FLOOR
EXHIBITION SPACE
MANUFACTURERS SECTION - AMERICAN GAS ASSOCIATION



OFFICIAL DIAGRAM
CONGRESS HOTEL - CHICAGO, ILL.
ELIZABETHAN ROOM - FIRST FLOOR
EXHIBITION SPACE
MANUFACTURERS SECTION - AMERICAN GAS ASSOCIATION

Money and Markets

*From the May issue of the Commerce Monthly, published by
THE NATIONAL BANK OF COMMERCE IN NEW YORK*

Building

LABOR, the direct recipient of a large percentage of the amount spent in building operations, still remains the prime obstacle to a resumption of construction activity. Decreased prices for many classes of material have accentuated the difficulty which the present attitude of workers in the building trades entails. Lower material prices without lower wages and the restoration of an honest output per man per day raise the proportion or cost which must be charged against labor and increase its responsibility for the prevailing stagnation.

Governor Miller of New York correctly stated the only solution of the problem at a recent public hearing on the housing shortage, when he was quoted as saying: "Labor is destroying its own capital when it limits its production. Labor must co-operate. It needs to stimulate production, to give a day's work for a day's pay." He further stated that as a result of the failure of labor to co-operate, the working man forces himself to live in three or four room houses at excessive rents and loses out at one end what he thinks he is getting at the other. Thus the situation bears on him more heavily than anybody else.

Meanwhile the F. W. Dodge Company's report on building activity in the 25 states north of the Ohio and east of the Missouri Rivers places the total value of contracts awarded during the month of March at only \$164,194,000 compared with \$327,897,000 in the corresponding month last year. The value of contracts awarded during March increased 63 per

cent. over the value of contracts awarded during February, but this increase is entirely the result of a larger number of small projects.

Production

The average daily output of pig iron in March was the lowest since December, 1914 and represents the lowest percentage of available capacity since accurate statistics of the industry have been kept. Total production of pig iron for the month of March was 1,595,522 tons as compared with 1,937,257 tons during February. There were 102 furnaces in blast on April 1st with a daily capacity of 43,530 gross tons as compared with 152 in blast on March 1st with a daily capacity of 61,730 gross tons. Steel ingot production by about 85 per cent. of the industry amounted to 1,570,978 gross tons during March as compared with 1,749,477 gross tons in February. In spite of some orders from the automobile industry and for pipe making, the buying of steel is entirely in the form of small orders for prompt delivery, and a disposition on the part of buyers to distrust the future course of the market is plainly apparent.

Announcement that operations had been suspended by about 60 per cent. of the country's productive activity had no permanent effect on the market for copper and practically none of the metal is moving in the domestic market.

Bituminous coal production declined week by week during the month of March and totaled only about 29,000,000 tons, as compared with 47,000,000 tons in March, 1920.

The final ginning report of the bureau of the Census gives the 1920 cotton crop as 13,197,775 running bales, the largest crop since 1914 when 15,905,840 running bales were ginned. Stocks of cotton on hand in the United States on March 31st were 9,905,000 bales as compared with 6,748,000 bales last year, 8,107,000 bales two years ago and 4,227,000 bales on March 31st, 1914. Stocks at mills are low but these are offset by large stocks in public storage and in the hands of producers. Cotton consumption by American mills in March was 437,933 bales, exclusive of linters, an increase of a little more than 40,000 bales over consumption for February. Cotton consumption has increased steadily during the last three months. Staple goods are selling well, but business in fine fabrics is far below normal.

Improvement in woolen and worsted manufactures is indicated both by trade reports and government statistics of active and idle machinery. The international wool auctions still reflect extreme hesitancy on the part of buyers in the face of heavy stocks throughout the world; prices are unsatisfactory and withdrawals frequent.

Conditions in the silk industry are more satisfactory at this date than in either of the other major textiles. Some manufacturers are reported as occasionally departing from the policy of buying raw silk for immediate needs only and are ordering silk in a moderate way for future require-

ments. Stocks of raw silk in this country have been much reduced, but trade reports are to the effect that stocks in the primary markets in Japan and other producing centers are relatively larger than they were a year ago.

Large stocks all over the world remain the dominating factor in the market for hides and skins and tanned leather. On the basis of data prepared by the Bureau of the Census regarding stocks of hides and leather in the United States during the months of November and December, 1920 and January, 1921, stocks are still gaining on consumption.

Although the non-ferrous metals, hides, cotton, rubber and some other commodities have now fallen to a point at or below the pre-war level, wholesale prices of many commodities continued to fall during the period March 16th to April 15th. Except in the case of a few commodities, however, declines were not heavy, and in some lines there were small gains.

Railroads

The abrogation of the so-called National Agreements is the first important step toward the remedying of an almost intolerable situation. Negotiations must yet be had between individual lines and their employees, but the enunciation by a government agency of the broad principals of honesty in work and fair treatment both ways as a basis for these negotiations is certainly the most favorable development we have had since emergency legislation separated railway employees from other labor in general.

Dependable Contracts like good credit are our best business currency.

Cancelled Contracts like counterfeit money represent dishonor and loss.

"The Golden Rule is *still* a good rule"

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Results of Analysis of Standard Sample of Mixed Coal and Water Gas Submitted to Various Laboratories¹

A. C. FIELDNER² and G. W. JONES³

IN connection with revising the chapter on gas analysis of the Gas Chemists' Handbook published by the American Gas Association, a standard sample of mixed coal and water-gas was pre-

pared and portions submitted to various laboratories of member companies of the Association for analysis. The purpose of the investigation was to determine the accuracy and agreement of the results

¹ Published by permission of the Director, U. S. Bureau of Mines.

² Supervising Chemist, U. S. Bureau of Mines, Pittsburgh, Pa.

³ Assistant Physical Chemist, Pittsburgh Experimental Station, U. S. Bureau of Mines.

TABLE I
Average Analyses of a Sample of Mixed Coal and Water Gas, Reported by Various Laboratories.

Design of Laboratory Apparatus	Type of Apparatus	Confining Liquid in Burette	CO ₂ %	Solution Used	Illuminants %	Solution Used	O ₂ %	Solution Used	CO %	How Determined	H ₂ %	CH ₄ %	How Determined	C ₂ H ₆ %	How Determined	Confining Liquids in Pipette	N ₂
A	Hempel	Mercury	5.6	KOH 35%	13.2	Bromine water, 1/4 saturated	.7	Phosphorus	25.2	Acid CuCl ₂ & palladium	35.9	12.4	Slow combust'n and explosion	2.0	Slow combust'n and explosion	Hg.	5.0
B	"	Water	5.2	"	14.3	Fuming H ₂ SO ₄	.1	Alkaline pyrogallate	24.5	Alkaline CuCl ₂ 1 pipette	37.3	12.4	Slow combust'n	2.7	Slow combust'n	"	3.5
C ₁	Orsat	Mercury	5.2	KOH 30%	13.6	"	.6	Potassium pyrogallate	24.1	Oxidised with CuO	37.1	12.5	"	2.0	"	"	4.9
C ₂	"	"	5.3	"	13.4	"	.7	"	25.1	Alkaline CuCl ₂ & palladium	36.3	12.5	"	1.5	"	"	5.2
D	"	Water	5.9	"	13.2	"	.7	"	24.7	Acid CuCl ₂ & palladium	32.6	16.1	Explosion	"	"	"	6.8
E	"	"	5.6	"	13.6	"	1.0	Pyrogallate	24.8	2 pipettes	33.7	16.7	"	"	"	"	4.6
F	Hinman	Mercury	5.2	"	14.2	"	.4	Potassium pyrogallate	23.1	Acid CuCl ₂ Explosion	33.4	18.4	"	"	"	"	5.3
G	Elliot	Water	5.3	NaOH 10%	12.9	Bromine	1.1	Sodium pyrogallate	24.5	Acid CuCl ₂	31.8	16.5	"	"	"	Water	7.9
H	"	"	4.9	"	13.2	"	.7	"	25.4	"	33.9	16.5	"	"	"	"	5.4
I	Morehead	"	5.1	"	13.3	"	1.5	"	25.2	"	31.9	11.9	Explosion	1.4	Explosion	"	10.6

Average: 5.3 13.5 .7 24.7 36.7_a 12.5_a 2.1_a 5.9
 Maximum deviation from average: 0.6 0.8 .8 1.6 0.8_a 0.1_a .7_a 4.7

^aResults of laboratories A. to C. inclusive, only, used in computing average.

TABLE II

I Apparatus	2 Analysis as reported		3 Corrected for C ₂ H ₆		4 Methods used	
	H ₂	CH ₄	H ₂	CH ₄		
Hempel (a)	35.9	12.4	35.9	12.4	Slow combustion	
Hempel (b)	37.3	12.4	37.3	12.4	Slow combustion	
Orsat (c)	37.1	12.5	37.1	12.5	Slow combustion	
Orsat (d)	36.3	12.5	36.3	12.5	Slow combustion	
Orsat (e)	32.6	16.1	—	—	Explosion	
Orsat (f)	33.7	16.7	35.6	12.9	Explosion	
Hinman (g)	33.4	18.4	35.3	14.6	Explosion	
Elliot (h)	31.8	16.5	33.7	12.7	Explosion	
Elliot (i)	33.9	16.5	35.6	12.7	Explosion	
Morehead (j)	35.0	11.0	35.3	12.6	Explosion	
Average per cent. 1.6						

of analysis by the various forms of apparatus and methods in common use for technical gas analysis.

Preparation of Samples

The standard samples were prepared under the direction of Mr. W. H. Fulweiler in the laboratory of the United Gas Improvement Company, Philadelphia, Pa. Two samples of approximately 125 cc. each were sent to each of the participating laboratories in glass containers in which the capillary ends were sealed off in a gas flame thus preventing any possibility of leakage. The gas at the time of sampling tested 23.3 candle power and 669 B. t. u's. per cubic foot, under standard conditions. Unfortunately, the quantity of gas in each container was too small for many of the laboratories to check their analyses and in those cases where water was used as the confining liquid in the gas burette, some error was introduced due to insufficient sample for saturating the water with the gas to be analyzed.

The samples were mailed by Mr. Fulweiler to the following laboratories who forwarded the results and descriptions of methods used to the writers for compilation:

- D. J. DEMOREST, Ohio State University, Columbus, O.
- A. C. FIELDNER, U. S. Bureau of Mines, Pittsburgh, Pa.
- W. H. FULWEILER, United Gas Improvement Co., Philadelphia, Pa.
- R. B. HARPER, Peoples Gas, Light & Coke Co., Chicago, Ill.
- C. D. JENKINS, Department of Public Utilities, Boston, Mass.
- O. A. MORHOUS, Consolidated Laboratories, New York, N. Y.

- I. A. NICHOLAS, Clairton By-Products Coke Works, Clairton, Pa.
- F. W. SPERR, Koppers Company, Pittsburgh, Pa.
- E. C. UHLIG, Uhlig Laboratories, Brooklyn, N. Y.

Each laboratory is designated by a letter in the table which is not given in the same order as listed above.

Methods and Apparatus Used

Each laboratory was instructed to analyze the samples by the method and apparatus in regular use in their laboratory. The returns showed that three used the modified Orsat apparatus, two Hempel, two the Elliot, one the Morehead and one the Hinman apparatus. Descriptions of the various methods and apparatus used are given in the following references:

U. G. I. modification of Hempel, Elliot, and Morehead methods in the 1916 edition of the Gas Chemists' Handbook.*

Results of Analyses

The average results of analyses reported by each laboratory are given in table 1 together with the type of apparatus used, the confining liquid in the burette (water or mercury) and the method used for determining each constituent.

Discussion of Results

Carbon Dioxide. The results show that in routine analysis, there is little, if any, advantage to be gained by using mercury as the confining liquid for gases of the above composition. The solubility of carbon dioxide in water is higher than that of any of the other gases, yet the apparatus using water obtained as

* Published by American Association, New York.

Demorest's Modification of Hempel method in "Notes on Metallurgical Analysis," by Lord and Demorest, McGraw-Hill Publishing Co., New York.

Bureau of Mines Modification of Orsat Apparatus in Journal of Industrial and Engineering Chemistry, Vol. 8, 1916, p. 228.

good results for this constituent as those using mercury. The high results obtained by Laboratory D may possibly be explained by the fact that a special bubbling pipette is used whereby the gas is very thoroughly washed through the caustic solution. This procedure may have removed some of the illuminants, especially if the caustic solution was put in fresh before making the analysis, since illuminants are somewhat soluble in this solution. Either caustic soda or potash may be used without appreciable disagreement of results and the strength has little effect on the accuracy of analysis.

Illuminants. The values reported for illuminants agree fairly well when either fuming sulphuric acid or bromine water is used; fuming sulphuric acid gives slightly higher results, due to the more rapid or perhaps more complete absorption of benzol and toluol.

Oxygen. Some variation is noted in the oxygen percentage. This is due to either of two causes. First, some oxygen having been introduced in transferring the samples from the containers to the apparatus; or second, an interchange of absorbed air between the gas sample and wash water as used in the Elliot and Morehead types of apparatus.

The carbon monoxide values agree fairly well considering the amount of this constituent present.

The variations are seemingly due more to manipulation than to any particular type of apparatus or method. Acid and alkaline cuprous chloride give equally good results.

Hydrogen, Methane and Ethane: The first wide variation in the reported results occurs in the hydrogen, methane and ethane. The hydrogen percentages reported by those who did not determine

the ethane are obviously low, due to the error introduced by the presence of ethane in the gas. Likewise the methane percentages reported by the laboratories are higher than the sum of the methane and ethane per cent. in the gases.

As regards accuracy, there seems to be no preference in using either the palladium or the copper oxide method for determining hydrogen. Also the agreement of results obtained by using the explosion method and calculating the results to hydrogen and methane are nearly as close as those obtained in the slow combustion method.

Nitrogen. The nitrogen variations are due to one or both of two causes: (1) Introduction of air during the analysis, and (2) incomplete removal of the different constituents.

Comparison of Results Corrected for Ethane: Table II gives a comparison of recalculated hydrogen and methane values corrected for ethane for those laboratories that did not make the ethane determination. A comparison of these recalculated results with the results obtained by slow combustion in which ethane was determined shows good agreement in case of methane, but lower results for hydrogen when determined by the explosion method.

The low values for H_2 and CH_4 obtained by the laboratory using the Morehead apparatus was probably caused by the introduction of air into the apparatus when the sample was taken. This assumption is confirmed by the higher oxygen and nitrogen values reported by Laboratory I.

Conclusions

From the results obtained by different laboratories and by different methods of analysis of a typical illuminating gas, the

following conclusions are drawn:

(1) Adequate technical accuracy was obtained by each participating laboratory, showing that with careful manipulation and full knowledge of the limitation of each method, any of the ones used in this investigation may be safely used in routine work.

(2) Either water or mercury may be used as the confining liquid.

(3) For carbon dioxide determinations, either caustic soda or potash may be used. The concentration of these solutions may vary widely without affecting the accuracy of analysis.

(4) Either fuming sulphuric acid or bromine water may be used for illuminants with nearly equal accuracy.

(5) For gases of low oxygen content any of the standard absorbents shown in table 1 for oxygen may be used.

(6) Either acid or ammoniacal cuprous chloride solution, copper oxide or palladium may be used for removing carbon monoxide.

In view of the fairly close agreement of results shown by the different apparatus, it has been recommended that the Hempel, Orsat, Elliot and Morehead apparatus be included in the new revised Gas Chemists' Handbook.

Standards for Cast Iron Pipes and Special Castings

ON April 6th, 1921, the following circular letter was mailed to eleven manufacturers of cast iron pipe and special castings, and received a very gratifying response as indicated by Mr. Forstall's letter to Mr. Lemoine, a copy of which is also reproduced:

"Gentlemen:

We desire once more to call your attention to the following standards for cast iron gas pipe:

A.G.I. Standard Specifications

Adopted October, 1913

A.G.I. Bell and Spigot Pipe and Special

Castings.....Adopted October, 1911

A.G.I. Flanged Pipe and Special Castings

Adopted October, 1913

As you already know, the above form a standard for gas practice, the exclusive use of which our Committee has as its duty to facilitate in every way. The pipe founders may aid in such use by the provision of the requisite patterns, and also by discouraging the manufacture of castings not included in the standards. Any reference to this Committee of requests from customers for non-standard castings will be appreciated, as the Committee welcomes the opportunity of showing that the existing standards are adequate for present needs. It also is ready at all times to consider

any supplemental list of castings which future developments may prove to be necessary.

Yours truly,

Committee on Cast Iron Pipe Standards

WALTON FORSTALL, *Chairman*

L. R. LEMOINE

W. CULLEN MORRIS

MR. L. R. LEMOINE,

President, U. S. Cast Iron Pipe &

Foundry Co.,

Morris Building, Philadelphia.

Dear Sir:

I consider that we have had a very gratifying response to our circular of April 6th to the pipe founders, calling their attention once more to our standard specifications and offering our help to them in living up to these specifications. So far we have had six replies to the eleven letters we sent out, and these replies indicate what a strong position is now occupied by our standards.

Yours truly,

WALTON FORSTALL,

*Chairman, Committee on Cast Iron
Pipe Standards, American Gas
Association.*

Our members should heartily co-operate in the Committee's effort to promote universal observance of the standards in effect.

Branch Connections from Existing Cast Iron Mains

H. B. ANDERSEN, Philadelphia, Pa.

THE article on this subject, on page 243 of the April Monthly, is interesting because it reveals the existence of differences in practice in the method of installing the hat flange and hub sleeve. The Baltimore method in some cases includes the stopping of the gas flow in the main by drilling the main and inserting stoppers. The only advantage which is mentioned, resulting from this operation, is the ability to withdraw from inside the main, the piece which has been cut out of its side. The "stoppering" operation is not essential, and the installation of either a hat flange or hub sleeve can be made without shutting off the gas. Within the last year, the writer has observed the successful installation of two 30" by 16" hat flanges, without stoppering, in the following manner.

The diamond-pointing of the circular cut leaves perhaps one eighth, or less, of metal. This remaining metal is chiseled clean through, except at one place from one to three inches long, at the top or bottom. Soap is applied to close the cut as this chiseling is being done. A short length of pipe is laid from the bell of the flange or sleeve outlet. This length is provided with a hole for stopper. A wooden plug, with a hole in its centre just large enough to permit the passage of an iron bar, is inserted in the end of

this short length of pipe. The iron bar is inserted with its end against the piece to be driven into the main, and a few smart blows on its outer end drive in this piece, and the connection is made. The bar is withdrawn and a stopper inserted in the short length.

One of the advantages of using hub sleeves and hat flanges for branch connections, instead of tees and crosses, lies in the fact that the main, need not be stoppered. The suggested increase in the variety and outlet size of hub sleeves and hat flanges will be of maximum benefit, if adopted, to those engineers who wish particularly to avoid the necessity of shutting off gas in large mains, and who have already proved by experience that it is unnecessary to do this when using the comparatively few sizes of sleeves and flanges which at present are included in the standards.

CORRECTION

The attention of the members is called to two errors which occurred in the article on "Branch Connections, etc." by Mr. Beadenkopf on pages 243-244 of the April issue. The sketch on page 243 should have shown the connection of a *hub sleeve* on a 16" main, instead of a hat flange as actually illustrated and on page 244 the size of the main shown should have been 24".

"National development depends upon an ever increasing supply of power. Heat is as necessary for production, in fact, for human existence, as is air and water. Its use must be continued from day to day and cannot be interrupted or deferred . . ."

—Senator William M. Calder.

GAS CHEMISTS' HAND BOOK

Revised Edition

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Current List No. 45—July, 1921

Rate Changes.

Where information is not secured from the company, the source of information is noted in brackets. See Cumulative List No. 7, of March, 1921, for explanation of abbreviations. This list includes only changes reported as established subsequent to May, 1921.

ALABAMA

Montgomery: Co., reports second increase effective Jan. 1, 1921. New rate 1st 10 MCF. (Increase) \$2.10, next 20 MCF. \$2.00, next 20 MCF. \$1.90, next 50 MCF. \$1.80, over 100 MCF. \$1.60 per M. disc. .10 per M. 10 days.

CALIFORNIA

Hanford: Co., reports second increase effective Sept. 18, 1920. New rate 1st 5 CCF. (Increase) or less \$1.25 net, next 25 CCF. \$2.00 net per M., next 5 MCF. \$1.90, next 7 MCF. \$1.70, over 15 MCF. \$1.40 net per M.

COLORADO

Trinidad: El. Trans. Ry. & Gas Co., reports increase effective April, 1919. Old rate (Increase) \$1.60 per MCF.—10¢ per M. disc. 7 days. M.M. Chge \$1.00. New rate \$1.70 per MCF. disc. and M. M. Chge same, Fuel \$1.10 net. Comb. \$1.40 net per M.

CONNECTICUT

Bridgeport: Co., reports fifth increase effective Nov. 1, 1920. New rate 1st 25 MCF. (Increase) 14¢ per CCF., next 75 MCF. 13¼¢, over 100 MCF. 13¢ per CCF. disc. 1¢ per CCF. D. P. Customer charge 3 to 30 lt. meter .50, 45 to 100 lt. \$1.00, 150 to 200, \$1.50 over 200 lt. \$2.00 per month. Co., reports sixth increase effective July 1, 1921. New rate 1st MCF. 16¢ per CCF., next 5 MCF. 15¢ next 15 MCF. 14¢, next 25 MCF. 13¢, next 50 MCF. 12½¢ over 100 MCF. 12¢ per CCF. M. M. Chge when less than 4 CCF is used 50¢ Penalty 2% 10 days. Customers S chge discontinued.

ILLINOIS

Cairo: Co., reports second increase effective Nov. 1, 1920. New rate 1st 5 MCF. (Increase) \$1.95, next 5 MCF. \$1.85, next 10 MCF. \$1.75, over 20 MCF. \$1.65 per M. disc. .10¢ per M. D. P., M. M. Chge .75.

Chicago: Co., reports third increase effective June 16, 1921. New rate M. M. Chge. (Increase) for 1st 4 CCF. 3.5 & 10 lt. Meter 60¢ 20 lt., 75, 30 lt., \$1.00, 45 lt. \$1.20, 60 lt. \$1.50, 100 lt. \$1.75, 150 lt. \$2.25, 200 lt. \$2.70, 250 lt. \$3.00, 300 lt. \$3.50, 400 lt. \$4.00. M. M. Chge for over 4 CCF. 20 lt. \$1.00, 30 lt. \$2.00, 45 lt. \$2.50, 60 lt. \$3.00, 100 lt. \$4.00, 150 lt. \$5.00, 200 lt. \$6.00, 250 lt. \$8.00, 300 lt. \$10.00, 400 lt. \$12.00. Primary rate over 4 CCF. and not over 50 MCF. \$1.15 per MCF. Secondary rate \$1.00 per MCF. for gas in excess of 50 MCF. Penalty .10 per M. 10 days.

Macomb: Co., reports third increase effective July 1, 1920. New rate 1st 3 MCF. (Increase) \$1.75, next MCF. \$1.65, next MCF. \$1.50, next 5 MCF. \$1.40, next 15 MCF. \$1.30, next 25 MCF. \$1.20, over 50 MCF. \$1.05 per M. disc. 10¢ per M. 10 days. M. M. charge .50. P. P. Meters \$1.60 per M.

Mattoon: Co., reports second increase effective Jan. 1, 1921. New rate 1st 3 MCF. (Increase) \$2.10, next MCF. \$1.95, next MCF. \$1.85, next 5 MCF. \$1.75, next 15 MCF. \$1.65, over 25 MCF. \$1.55 per M. disc. 10¢ per M. 10 days. M. M. Chge .75.

Paris: Co., reports second increase effective Aug. 1, 1920. New rate 1st 3 MCF. (Increase) \$1.85, next MCF. \$1.70, next MCF. \$1.60, next 5 MCF. \$1.45, next 15 MCF. \$1.35, over 25 MCF. \$1.25 per M. disc. 10¢ per M. 10 days. M. M. Chge .75.

Rockford: Co., reports third increase effective Feb. 1, 1921. New rate 1st 5 MCF. \$1.50, (Increase) next 5 MCF. \$1.45, next 20 MCF. \$1.40, next 20 MCF. \$1.35, next 50 MCF. \$1.30, next 200 MCF. \$1.25, next 200 MCF. \$1.20, over 500 MCF. \$1.15 per M. disc. 10¢ per M. 10 days.

A. G. A. MONTHLY

INDIANA

Indianapolis:
(Increase) Co., reports second increase effective May 4, 1921. New rate .90 flat per MCF. for all classes of consumers B.t.u. 570 Max. 540 Min. Rate effective to Dec. 31, 1921, or such earlier or later date as the P. S. C. may direct.

IOWA

Davenport:
(Increase) Under date of April 26, 1921, State District Court made permanent an injunction obtained in July, 1920, authorizing \$1.40 per MCF. net. No discount or penalty. Rate to remain in force and subject to review on January 1, 1922.

Des Moines:
(Decrease) Co., reports a voluntary reduction effective April 24, 1921. "Our former rate \$1.60 gross \$1.50 net was the result of an order from the U. S. Court pending final settlement of our Rate Case wherein this Company is attempting to show that rate of \$1.05 net established by City Council is confiscatory. We expect this case to be tried this summer but in the meantime conditions have changed somewhat and we have made a voluntary reduction from \$1.50 to \$1.35 net."

Ottumwa:
(Decrease) Co., reports to City Council a voluntary reduction, based on lower cost of oil, of 10¢ per MCF., effective June 1, 1921.

MARYLAND

Hyattsville:
(Decrease) Co., reports change in rate effective June 1, 1921, to remain in effect two years unless earlier modified and beyond the two year period until further order. New rate 1st 10 MCF. \$1.85, over 10 MCF. \$1.60 per M., with S. Chge .50 per meter per month.

MASSACHUSETTS

Boston:
(Decrease) Co., reports a voluntary reduction of 5¢ per MCF. effective June 15, 1921. New rate 1st 25 MCF. \$1.35, over 25 MCF. \$1.20 per M. disc. 25% on amount in excess of \$200.00.

Cambridge:
(Decrease) Co., reports a voluntary reduction effective July 1, 1921, of 15¢ per M. New rate \$1.35 per MCF. The announcement contained the following "Because of the greater expense attendant upon the use of Prepayment Meters the decrease in price will not be applied to such meters, but consumers now using prepay meters may have them replaced by regular meters on application to the company and in that way reap the benefit of the reduced price."

MICHIGAN

Grand Haven:
(Increase) Co., reports third increase effective May 1, 1921. New rate—Domestic, Residences only, S. Chge .50 per month per meter plus consumption charge 16½¢ per CCF. Industrial S. Chge 10¢ per rated lt. of meter per month plus consumption charge 1st 25 MCF. .16½¢, next 25 MCF. .14½¢, over 50 MCF. .12½¢ per CCF. disc. 1¢ per CCF. 10 days. Supplies Spring Lake and Highland Park R. T. S. Chge \$5.00 per meter per season plus 1st 5 MCF. 21¢, next 10 MCF. 16¢, next 10 MCF. 15¢, next 10 MCF. 13½¢ per CCF. disc. 1¢ per CCF. 10 days.

Three Rivers:
(Increase) Mich. G & E Co., reports increase effective June 1, 1920. New rate \$2.00 net per MCF. M. M. Chge .50.

MINNESOTA

Winona:
(Increase) Co., reports fourth increase effective April 21, 1921. New rate \$2.08 gross \$1.93 net per MCF. M. M. Chge .50.

MISSOURI

St. Louis:
(Increase) Co., reports second increase effective April 8, 1921. New rates being raised to \$1.05, 95¢ and 85¢ net respectively. Penalty 10¢ per M. discount period.

NEBRASKA

Omaha:
(Increase) Co., reports increase effective April, 1921. New rate 1st 5 CCF. or less .85¢, next 2 MCF. \$1.35 per M., next 3 MCF. \$1.50, next 5 MCF. \$1.45, next 40 MCF. \$1.40, next 50 MCF. \$1.30, next 100 MCF. \$1.20, over 200 and ½ MCF. \$1.10 per M. Disc. .10 per MCF. or from M. M. Chge if paid in D. P., R.T.S. Chge discontinued.

A. G. A. MONTHLY

NEW JERSEY

- Toms River:** Co., reports fourth increase effective June 1, 1921. New rate \$2.25 per MCF. disc. 5¢ per M. 10 days. S. Chge \$3.00 per year on all meters. Street Lights—\$40.00 midnight, \$50.00 all night, per year.
- Glassboro:** Co., reports third increase effective June 1, 1921. New rate 1st 25 MCF. \$2.10, next 25 MCF. \$2.05, next 25 MCF. \$2.00, next 25 MCF. \$1.95, next 50 MCF. \$1.85, next 50 MCF. \$1.75, next 100 MCF. \$1.70, next 100 MCF. \$1.65, next 100 MCF. \$1.60, over 500 MCF. \$1.55 per M., all rates net. Laurell Springs District 10¢ less per M. until larger main ordered by P. U. C. Nov. 9, 1920, is installed and connected to distribution system. Number of towns supplied 52.

NEW YORK

- Binghamton:** Co., reports decrease effective April 25, 1921. New rate \$1.35 gross, \$1.25 net per MCF. Reduction ordered by P. S. C.
- Cohoes:** Co., reports third increase effective Dec. 5, 1920. New rate \$2.35 per MCF. with S. Chge of .75. This rate was reduced effective April 1, 1921, to \$2.05 per MCF. with S. Chge of .35 per month.
- Coney Island:** Co., reports fourth increase effective May 6, 1921. New rate \$1.50 per MCF. B.t.u. 525.
- Gloversville:** Co., reports change in S. Chge effective March 1, 1921. Commodity rate unchanged. Graduated Service Charge changed to S. Chge 40¢ per month per meter.
- Hudson Falls:** Co., reports increase effective June 6, 1921. New rate \$2.30 per MCF. disc. 10¢ per M., M. M. Chge \$1.00.
- Lockport:** Co., reports third increase effective March 5, 1921. New rate 1st 10 MCF. \$2.00, next 90 MCF. \$1.85, over 100 MCF. \$1.70 per M. disc. 10¢ per M. D. P. M. M. Chge .50.
- Peekskill:** Lighting & Rd. Co., reports old rate \$1.50 to \$1.00 per MCF. First increase effective Jan. 15, 1919, to 1st 10 MCF. \$1.70, next 10 MCF. \$1.50, next 10 MCF. \$1.25, over 30 MCF. \$1.00 per M., P. P. Meters \$1.70 per M. Second increase effective April 25, 1921. Rates unchanged S. Chge of .60 per month added to both Reg. and P. P. Meters B.t.u. 585.
- Port Washington:** Public Service Corp. of L. I. reports increase effective April 5, 1921. New rate \$.65 per MCF. disc. 10¢ 10 days S. Chge .85. Old rate 1st 5 MCF. \$1.50 per M. with reduction of 5¢ per M. for each successive MCF. to 12 MCF. disc. 15¢ per M. 10 days.
- Sag Harbor:** Co., reports second increase effective May 21, 1921. New rate consumers using less than 2500 MCF. per annum \$2.85 per M. M. M. Chge \$1.00. \$1.85 per M. when consumption equals 2500 MCF. per annum. Increase allowed to Jan. 1, 1922.
- Saranac Lake:** Mountain Gas Co., reports First increase effective Nov. 1, 1920. New rate \$3.15 gro., \$2.85 net per MCF. S. Chge \$1.00. Second increase effective July 1, 1921. New rate \$3.15 per MCF. Discount 15¢ per M. 1st 3 MCF., over 3 MCF., 30¢ per M., S. Chge discontinued. Old rate \$1.65 gro., \$1.50 net per MCF.
- Watertown:** Co., reports second increase effective Nov. 1, 1920. New straight line rate \$2.17 per MCF. M. M. Chge .50. Co., announced a voluntary reduction effective May 1, 1921. New rate 1st 100 MCF. \$2.00 per M. over 100 MCF. a discount of 15¢ per MCF. M. M. Chge .50 B.t.u. 585.

NORTH CAROLINA

Norrg:—During the latter part of 1920 the P. S. C. gave liberal increases to the Gas Companies subject to a thorough investigation of the subject which was concluded and a decision rendered effective April 1, 1921, which in most instances decreased the rates an average of about 15¢ per MCF., the new rate being a substantial increase over former rates.

- Charlotte:** Co., reports decrease effective April 1, 1921. New rate 1st 10 MCF. \$1.85, next 10 MCF. \$1.65, next 10 MCF. \$1.55 per MCF. disc. 5¢ per M. M. M. Chge \$1.50. B.t.u. 540.

A. G. A. MONTHLY

- Durham:**
(Decrease) For rates see Raleigh.
- Elisabeth City:**
(Decrease) Co., reports decrease effective April 1, 1921. New rate 1st 10 MCF. \$2.40, next 10 MCF. \$2.20, over 20 MCF. \$2.10 per M. disc. 5¢ per M. 10 days. M. M. Chge \$1.50. B.t.u. 540
- Goldsboro:**
(Decrease) Co., reports decrease effective April 1, 1921. New rate 1st 10 MCF. \$2.35, next 10 MCF. \$2.15, over 20 MCF. \$2.05 per M. dis. 5¢ per M. 10 days. M. M. Chge \$1.50. Old rate 1st 5 MCF. \$2.55, next 5 MCF. \$2.45, next 5 MCF. \$2.35, next 5 MCF. \$2.25, over 20 MCF. \$2.15 per M. dis. 10¢ per M. 10 days. This rate effective Aug. 1, 1920, was a temporary rate pending final hearing which was held in March, 1921, and permanent rate granted.
- Greensboro:**
(Decrease) Co., reports decrease effective April 1, 1921. New rate 1st 10 MCF. \$1.95, next 10 MCF. \$1.75, over 20 MCF. \$1.65 per M. disc. 5¢ per M. M. M. Chge \$1.50. Replacing temporary increase granted Jan. 1, 1921, same blocks \$2.00, \$1.75 and \$1.50 net per MCF. M. M. Chge same.
- High Point:**
(Decrease) N. C. Public Service Co., reports decrease effective April 1, 1921. New rate 1st 10 MCF. \$2.10, next 10 MCF. \$1.90, over 20 MCF. \$1.80 per M. disc. 5¢ per M. M. M. Chge \$1.50. Former rate same blocks \$2.35, \$2.10, \$1.85 per M. disc. 10¢ per M., no M. M. Chge 12 C.P.
- New Bern:**
(Decrease) Co., reports decrease effective April 1, 1921. New rate 1st 10 MCF. \$2.35, next 10 MCF. \$2.15, over 20 MCF. \$1.95 per M. disc. 5¢ per M. M. M. Chge \$1.50.
- Raleigh:**
(Decrease) Co., reports decrease effective April 1, 1921. New rate 1st 10 MCF. \$1.95, next 10 MCF. \$1.75, over 20 MCF. \$1.65 per M. disc. 5¢ per M. 10 days. M. M. Chge \$1.50 per mo. P. P. Meters \$1.90 net per M.
- Salisbury:**
(Increase) N. C. Public Service Co., reports increase effective April 1, 1921. New rate 1st 10 MCF. \$2.10, next 10 MCF. \$1.90, over 20 MCF. \$1.80 per M. \$1.50 M. M. Chge. Old rate 1st 10 MCF. \$1.70, next 15 MCF. \$1.35, next 25 MCF. \$1.10, over 50 MCF. .95 per M. \$1.50 M. M. Chge.
- Washington:**
(Decrease) Co., reports decrease effective April 1, 1921. New rate 1st 100 MCF. \$2.35, next 100 MCF. \$2.15, over 200 MCF. \$2.05 per M. disc. 5¢ per M. M. M. Chge \$1.50.

OHIO

- Toledo:**
(Increase) Railways & Lt. Co., reports old rate "A" effective Oct. 1, 1917. \$1.10 per MCF. disc. 15¢ per M. 10 days. M. M. Chge .25. First increase effective Aug. 20, 1920. New rate 85¢ per MCF. M. M. Chge and disc. same. Second increase effective Feb. 20, 1921. Wholesale Fuel Demand Charge 1st 10 MCF. Max H. D. per hour per annum \$72.00, next 90 MCF. Max H. D. \$60.00, over 100 MCF. Max H. D. \$36.00 plus C. Chge \$1.25, per month, plus Consumption Chge 24¢ per MCF.

OREGON

- Portland:**
(Decrease) Co., reports change of rate effective April 10, 1921. New rate 1st 3 CCF. or less M. M. Chge 85¢, next 97 CCF. \$1.30 per M., next 40 MCF. \$1.20, next 50 MCF. \$1.05, next 100 MCF. 90¢, over 200 MCF. 75¢ per M. disc. 5¢ per M. 12 days. Reduction was made by reason of a more favorable oil cost. A still further change was made effective June 6, 1921. 1st 3 CCF. or less M. M. Chge 75¢ in meters less than 10 B. and a reduction of 15¢ per M. on each block rate. Charges on meters larger than 10 B. 1st 3 CCF. 10 lt. B. 90¢, 30 lt. \$1.15, 45 lt. \$1.40, 60 lt. and 30 lt. B. \$1.60, 100 lt. and 60 lt. B. \$2.10, 200 lt. and 100 lt. B. \$3.50, 300 lt. \$5.00 with discount 5% 12 days.

PENNSYLVANIA

- Newtown:**
(Increase) Co., reports third increase effective Jan. 1, 1921. New rate 1st 5 MCF. 22¢ per CCF., next 5 MCF. 20¢, next 5 MCF 18¢, next 5 MCF 16¢, over 20 MCF. 15¢ per CCF. R. T. S. Chge .75 per month. Gas supplied for not less than one year. In case contract is terminated before year expires a S. Chge of .50 per month for remaining months of year must be paid by the consumer.

(Continued on page 384)

Classified Directory--Manufacturers of Gas Equipment

Company Members Only, American Gas Association, Inc.

ACETIC ACID

The Sherwin-Williams Co., Cleveland, O., New York, N. Y.

ARC LAMPS (Gas)

General Gas Light Co., New York, N. Y., and Kalamazoo, Mich.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
Welsbach Co., Gloucester, N. J.

ASBESTOS AND MAGNESIA PRODUCTS

H. W. Johns-Manville Co., Madison Ave. and 41st St., New York, N. Y.

AUTOMATIC CONDENSATION RECEIVERS

Plant Engineering & Equipment Co., Inc., 192 Broadway, New York, N. Y.

BAGS (Gas Main)

Safety Gas Main Stopper Co., 943 Fulton Street, Brooklyn, N. Y.

BENCHES

J. H. Gautier & Co., Jersey City, N. J.
Riter-Conley Company, Pittsburgh, Pa.
Russell Engineering Co., St. Louis, Mo.
The Parker-Russell Mining & Mfg. Co., St. Louis, Mo.
The Gas Machinery Co., Inc., Cleveland, Ohio
The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.

BENCH IRON WORK

Banner Iron Works, 4560 Shaw Ave., St. Louis, Mo.
Davis & Farnum Mfg. Co., Waltham, Mass.
Isbell-Porter Co., Newark, N. J.
Riter-Conley Company, Pittsburgh, Pa.
Russell Engineering Co., St. Louis, Mo.
The Bartlett Hayward Co., Baltimore, Md.
The Gas Machinery Co., Cleveland, Ohio
The Improved Equipment Co., 60 Wall St., New York, N. Y.
The Parker-Russell Mining & Mfg. Co., St. Louis, Mo.
The Stacey Manufacturing Co., Cincinnati, Ohio
The Western Gas Construction Co., Fort Wayne, Ind.

BOILERS (Gas)

Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.
Gallagher Boiler Co., Laclede Bldg., St. Louis, Mo.
General Gas Appliance Co., 103 Park Ave., New York, N. Y.
Hugo Manufacturing Co., West Duluth, Minn.
Wm. Kane Mfg. Co., Inc., 1915 Adams St., Philadelphia, Pa.
Kidde & Co., 103 Park Ave., New York, N. Y.
National Machine Works, Sheffield & North Aves., Chicago, Ill.
The Ofeldt Gas Fired Boiler Co., Inc., Nyack-on-the-Hudson, N. Y.
The Bryant Heater & Mfg. Co., Cleveland, Ohio, and Chicago, Ill.
The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.

BOILERS (Gas for House Heating)

American Radiator Co., New York—Chicago, Ill.
Dodd Heating Systems Limited, Toronto, Ont.
Gallagher Boiler Co., Laclede Gas Bldg., St. Louis, Mo.
Kidde & Co., 103 Park Ave., New York, N. Y.
The Bryant Heater & Mfg. Co., Cleveland, Ohio, and Chicago, Ill.

BOILERS (Waste Heat)

The Bartlett Hayward Co., Baltimore, Md.
The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.

BLOWERS, BOOSTERS, EXHAUSTERS

Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.

Gas Engineering Co., Ingram Ave., Trenton, N. J.

Isbell-Porter Co., Newark, N. J.

Maxon Furnace and Engineering Co., Muncie, Ind.

The Connorsville Blower Co., Connorsville, Ind.

The Needham Gas Appliance Co., 1 S. Lafayette St., New York City.

The Gas Machinery Co., Cleveland, Ohio

The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.

The C. M. Kemp Mfg. Co., Baltimore, Md.

Monarch Engineering & Mfg. Co., American Bldg., Baltimore, Md.

B. F. Sturtevant Company, Hyde Park District, Boston, Mass.

The Surface Combustion Co., 366 Gerard Ave., Bronx, N. Y.

The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.

The Western Gas Construction Co., Fort Wayne, Ind.

Wilbraham-Green Blower Co., Pottstown, Pa.

L. J. Wing Mfg. Co., 362 West 13th St., New York, N. Y.

BRAZING TABLES

Rathbone, Sard & Co., Albany, N. Y.
The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.

BRICK, FIREBRICK

Gas Machinery Co., Cleveland, Ohio
J. H. Gautier & Co., Jersey City, N. J.
Harrison-Walker Refractories Co., Pittsburgh, Pa.
Improved Equipment Co., New York, N. Y.
Laclede-Christy Clay Products Co., St. Louis, Mo.
The Parker-Russell Mining & Mfg. Co., St. Louis, Mo.
Missouri Fire Brick Co., St. Louis, Mo.
Russell Engineering Co., St. Louis, Mo.

BRAKE AND FRICTION MATERIALS

H. W. Johns-Manville Co., Madison Ave. and 41st Street, New York, N. Y.

BROILERS (Hotel)

Geo. M. Clark & Co., Div., Chicago, Ill.
Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.
The De Matteis Broiler System Co., Inc., New York, N. Y.
Rathbone, Sard & Co., Albany, N. Y.
The Michigan Stove Co., Detroit, Mich.

BURNERS (Industrial)

American Gas Appliance Co., 108 Lawrence St., Brooklyn, N. Y.
American Gas Furnace Co., 24 John St., New York, N. Y.
Century Stove & Mfg. Co., Johnstown, Pa.
Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.
Equitable Meter Co., Pittsburgh, Pa.
Grinnell Co., Inc., Providence, R. I.
General Gas Appliance Co., 103 Park Ave., New York, N. Y.
Charles A. Hones, Inc., Baldwin, Long Island, N. Y.
Hale Manufacturing Co., Chicago, Ill.
Hugo Manufacturing Co., West Duluth, Minn.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
The Maxon Furnace & Engineering Co., Muncie, Ind.
National Machine Works, Sheffield & North Aves., Chicago, Ill.
Needham Gas Appliance Co., 1 S. Lafayette St., New York City.
Tate-Jones & Co., Inc., 50 Church St., New York, N. Y.
The Baltimore Gas Appliance & Mfg. Co., Baltimore, Md.

A. G. A. MONTHLY

- The Eclipse Stove Co., Mansfield, Ohio
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
 The C. M. Kemp Mfg. Co., Baltimore, Md.
 Monarch Engineering & Mfg. Co., American Bldg., Baltimore, Md.
 The Surface Combustion Co., 366 Gerard Ave., Bronx, N. Y.
 The A. H. Wolff Gas Radiator Co., 4 Great Jones St., New York, N. Y.
- BURNERS (Lighting)**
 Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.
 General Gas Light Co., New York, N. Y., and Kalamazoo, Mich.
 Johnson Gas Appliance Co., Cedar Rapids, Iowa
 Weisbach Co., Gloucester, N. J.
- BY-PRODUCT OVENS**
 Andrew Engineering Co., Inc., Chicago, Ill.
 By-Product Coke Corp., Chicago, Ill.
 Foundation Oven Corporation, Woolworth Building, New York, N. Y.
 Semet-Solvay Co., Syracuse, N. Y.
 The Gas Machinery Co., Cleveland, Ohio
 The Improved Equipment Co., 60 Wall St., New York, N. Y.
 The Koppers Co., Pittsburgh, Pa.
 The Parker-Russell Mining & Mfg. Co., St. Louis, Mo.
- BY-PRODUCT RECOVERY APPARATUS**
 Foundation Oven Corporation, Woolworth Building, New York, N. Y.
 Isbell-Porter Co., Newark, N. J.
 The Bartlett Hayward Co., Baltimore, Md.
 The Gas Machinery Co., Cleveland, Ohio
 The Koppers Co., Pittsburgh, Pa.
 The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.
 The Western Gas Construction Co., Fort Wayne, Ind.
- CALORIMETERS**
 The Brown Instrument Co., Philadelphia, Pa.
 Lambert Meter Co., Inc., Bush Terminal Bldg., Brooklyn, N. Y.
 Maryland Meter Works, Baltimore, Md.
 D. McDonald & Co., Albany, N. Y.
 Nathaniel Tufts Meter Works, 455 Commercial St., Boston, Mass.
 Superior Meter Co., Brooklyn, N. Y.
- CASING, TUBING (Steel)**
 National Tube Co., Frick Bldg., Pittsburgh, Pa.
- CASTINGS (Grey Iron)**
 Banner Iron Works, 4560 Shaw Ave., St. Louis, Mo.
 The Western Gas Construction Co., Fort Wayne, Ind.
- CHARGING COAL**
 Isbell-Porter Co., Newark, N. J.
 Phillips, Lang & Co., Chicago, Ill.
 The Bartlett Hayward Co., Baltimore, Md.
 The Gas Machinery Co., Cleveland, Ohio
 The Western Gas Construction Co., Fort Wayne, Ind.
- CHIMNEYS (Radial Brick)**
 Alpha Custodia Chimney Construction Co., Marquette Bldg., Chicago, Ill.
- COAL AND COKE (Conveyors, Crushers, Screeners)**
 R. H. Beaumont Co., 315 Arch St., Philadelphia, Pa.
 Riter-Conley Company, Pittsburgh, Pa.
 Stephens-Adamson Mfg. Co., Aurora, Ill.
 Isbell-Porter Co., Newark, N. J.
 Phillips, Lang & Co., Chicago, Ill.
 The Bartlett Hayward Co., Baltimore, Md.
 The Gas Machinery Co., Cleveland, Ohio
 The Godfrey Conveyor Co., Elkhart, Ind.
 The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.
- COAL TAR PRODUCTS & CHEMICALS**
 The Barrett Company, 17 Battery Place, New York, N. Y.
- COCKS (Ranges, Water Heaters, Service and Meter)**
 A-B Stove Co., Battle Creek, Mich.
 Acme Brass Works, Detroit, Mich.
- Claus Automatic Gas Cick Co., Milwaukee, Wis.
 Hays Mfg. Co., Inc., Erie, Pa.
 Johnson Gas Appliance Co., Cedar Rapids, Iowa
 Kitson Co., 2837 Oakford St., Philadelphia, Pa.
 H. Mueller Mfg. Co., New York, N. Y., and Decatur, Ill.
 Peninsular Brass Works, Detroit, Mich.
 Standard Brass Works, Detroit, Mich.
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
 The Roberts Brass Mfg. Co., Detroit, Mich.
- COMPOUND FOR CLEANING GAS METERS AND GAS STOVES**
 Standard Chemical & Supply Co., Cambridge A., Mass.
- COMPRESSORS**
 Plant Engineering & Equipment Co., 192 Broadway, New York, N. Y. (Air Compressors.)
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
 The C. M. Kemp Mfg. Co., Baltimore, Md.
 The Surface Combustion Co., 366 Gerard Ave., Bronx, N. Y.
- CONDENSERS**
 Cruise-Kemper Co., Ambler, Pa.
 M. T. Davidson Co., 154 Nassau St., New York, N. Y.
 Davis & Farnum Mfg. Co., Waltham, Mass.
 Gas Engineering Co., Ingram Ave., Trenton, N. J.
 Isbell-Porter Co., Newark, N. J.
 Riter-Conley Company, Pittsburgh, Pa.
 Steere Engineering Co., Detroit, Mich.
 The Bartlett Hayward Co., Baltimore, Md.
 The Gas Machinery Co., Cleveland, Ohio
 The Stacey Manufacturing Co., Cincinnati, Ohio
 The Stacey Bros. Gas Construction Co., Cincinnati, Ohio
 The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.
 The Western Gas Construction Co., Fort Wayne, Ind.
- COOKING AUXILIARIES**
 Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.
 Duparquet, Huot & Moneuse Co., 108 W. 22nd St., New York, N. Y.
 Johnson Gas Appliance Co., Cedar Rapids, Iowa
 The G. S. Blodgett Co., Burlington, Vt.
 The General Gas Appliance Co., 103 Park Ave., New York, N. Y.
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
 The Scott Gas Appliance Co., 1311 E. St., N. W., Washington, D. C.
- COUPLINGS**
 S. R. Dresser Mfg. Co., Bradford, Pa.
- COVERINGS (cold pipe, steam pipe, tank and boiler)**
 Armstrong Cork Co., Pittsburgh, Pa.
- CYLINDERS (Pressure)**
 National Tube Co., Frick Bldg., Pittsburgh, Pa.
- DECALCOMANIA PRODUCTS**
 The Meyercoed Co., Inc., Chamber of Commerce Bldg., Chicago, Ill.
- DISINFECTANTS**
 The Sherwin-Williams Co., Cleveland, O., New York, N. Y.
- DYES, DISINFECTANTS, DRY COLORS**
 The Sherwin-Williams Co., Cleveland, O., New York, N. Y.
- ELECTRIC CONTROLLING DEVICES**
 The Cutler-Hammer Mfg. Co., Milwaukee, Wis.
- ELEVATORS**
 Craig, Ridgway & Son Co., Coatesville, Pa.
 Phillips, Lang & Co., Chicago, Ill.
- ENAMELS AND JAPANS (Heat Resisting)**
 The Sherwin-Williams Co., Cleveland, O., New York, N. Y.
- EXCHANGES (Heat)**
 The Bartlett Hayward Co., Baltimore, Md.
 Riter-Conley Company, Pittsburgh, Pa.
 The Western Gas Construction Co., Fort Wayne, Ind.

A. G. A. MONTHLY

EXPERT APPRAISAL

Steere Engineering Co., Detroit, Mich.
The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.

EXTRACTORS (Tar, Dust, Fumes)

Gas Engineering Co., Ingram Ave., Trenton, N. J.
Isbell-Porter Co., Newark, N. J.
The Bartlett Hayward Co., Baltimore, Md.
The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.
The Western Gas Construction Co., Fort Wayne, Ind.

FITTINGS

A-B Stove Co., Battle Creek, Mich.
Acme Brass Works, Detroit, Mich.
Aws Manufacturing Co., New York, N. Y.
Banner Iron Works, 4560 Shaw Ave., St. Louis, Mo.
Will W. Barnes, 31 Chelsea Place, East Orange, N. J.
Claus Automatic Gas Cock Co., Milwaukee, Wis.
Davis & Farnum Mfg. Co., Waltham, Mass.
S. R. Dresser Mfg. Co., Bradford, Pa.
Eriez Stove & Mfg. Co., Erie, Pa.
Grinnell Co., Inc., Providence, R. I.
Kitson Co., 2827 Oakford St., Philadelphia, Pa.
The McRae & Roberts Co., Detroit, Mich.
H. Mueller Mfg. Co., New York, N. Y., and Decatur, Ill.
Peninsular Brass Works, Detroit, Mich.
Shapiro & Aronson, Inc., 20 Warren St., New York, N. Y.
Standard Brass Works, Detroit, Mich.
The Gas Machinery Co., Cleveland, Ohio
The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
The Roberts Brass Mfg. Co., Detroit, Mich.
The Western Gas Construction Co., Fort Wayne, Ind.
Welsbach Co., Gloucester, N. J.

FITTINGS (Malleable Iron)

Detroit Brass & Malleable Works, Detroit, Mich.

FLEXIBLE TUBING AND ENDS

Atlantic Tubing Co., Providence, R. I.
Bishop Gutta Percha Co., 420 E. 25th St., New York, N. Y.
Eastman Mfg. Co., Manitowoc, Wis.
Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.

FLASHLIGHTS AND BATTERIES

Will W. Barnes, 31 Chelsea Place, East Orange, N. J.
Diamond Electric Specialties Corp., Newark, N. J.
French Battery & Carbon Co., Madison, Wis.
Novo Mfg. Co., 424 W. 33d St., New York, N. Y.

FUEL BRIQUETTING

Foundation Oven Corporation, Woolworth Building, New York, N. Y.

FURNACES

American Gas Furnace Co., 24 John St., New York, N. Y.
Century Stove & Mfg. Co., Johnstown, Pa.
Eriez Stove & Mfg. Co., Erie, Pa.
Geist Mfg. Co., Atlantic City, N. J.
Charles A. Hones, Inc., Baldwin, Long Island, N. Y.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
Maxon Furnace and Engineering Co., Muncie, Ind.
National Machine Works, Sheffield & North Aves., Chicago, Ill.
Needham Gas Appliance Co., Inc., 1 S. Lafayette St., New York, N. Y.
Russell Engineering Co., St. Louis, Mo.
Tate-Jones & Co., Inc., 30 Church St., New York, N. Y.
The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
The Parker-Russell Mining & Mfg. Co., St. Louis, Mo.
The Surface Combustion Co., 366 Gerard Ave., Bronx, N. Y.
Monarch Engineering & Mfg. Co., American Bldg., Baltimore, Md.

FUSES

H. W. Johns-Manville Co., Madison Ave. and 41st St., New York, N. Y.

GAS COAL PRODUCERS

Harlan Co-operative Coal Co., Lexington, Ky.

GAS ENGINES

The Bartlett Hayward Co., Baltimore, Md.

GAS ENGINE COCKS AND VALVES

Standard Brass Works, Detroit, Mich.

GAS IRONS

A-B Stove Co., Battle Creek, Mich.
Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
Milwaukee Gas Specialty Co., Milwaukee, Wis.
Benson Mfg. Co., Chicago, Ill.
Strause Gas Iron Co., Philadelphia, Pa.

GAS LOGS

The Mead Gas Heater Co., Delawanna, N. J.
Strait & Richards, Inc., Newark, N. J.

GAS MAIN BAGS AND GAS MAIN STOPPERS

Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.

GAS MIXERS

American Gas Furnace Co., 24 John St., New York, N. Y.
Century Stove & Mfg. Co., Johnstown, Pa.
Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.
Eriez Stove & Mfg. Co., Erie, Pa.
Geist Mfg. Co., Atlantic City, N. J.
Grinnell Co., Inc., Providence, R. I.
Hays Mfg. Co., Inc., Erie, Pa.
Improved Appliance Co., Inc., 419 Kent Ave., Brooklyn, N. Y.
Hale Manufacturing Co., Chicago, Ill.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
Maxon Furnace & Engineering Co., Muncie, Ind.
Strait & Richards, Inc., Newark, N. J.
Tate-Jones & Co., Inc., 30 Church St., New York, N. Y.
The C. M. Kemp Mfg. Co., Baltimore, Md.
Monarch Engineering & Mfg. Co., American Bldg., Baltimore, Md.
The Surface Combustion Co., 366 Gerard Ave., Bronx, N. Y.

GAS PLANTS (Blue)

Gas Engineering Co., Ingram Ave., Trenton, N. J.
The Gas Machinery Co., Cleveland, Ohio
The Bartlett Hayward Co., Baltimore, Md.
The Improved Equipment Co., 60 Wall St., New York, N. Y.
The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.
The Western Gas Construction Co., Fort Wayne, Ind.

GAS PLANTS (Carbureted Water)

Gas Engineering Co., Ingram Ave., Trenton, N. J.
The Bartlett Hayward Co., Baltimore, Md.
Gas Machinery Co., Cleveland, Ohio
The Improved Equipment Co., 60 Wall St., New York, N. Y.
The Stacey Manufacturing Co., Cincinnati, Ohio
The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.
The Western Gas Construction Co., Fort Wayne, Ind.

GAS PLANTS (Coal) (Enginers)

Davis & Farnum Mfg. Co., Waltham, Mass.
Gas Engineering Co., Ingram Ave., Trenton, N. J.
Isbell-Porter Co., Newark, N. J.
National Machine Works, Sheffield & North Aves., Chicago, Ill.
Riter-Conley Company, Pittsburgh, Pa.
Russell Engineering Co., St. Louis, Mo.
Semet-Solvay Co., Syracuse, N. Y.
Steere Engineering Co., Detroit, Mich.
The Bartlett Hayward Co., Baltimore, Md.
The Gas Machinery Co., Cleveland, Ohio
The Improved Equipment Co., 60 Wall St., New York, N. Y.
The Parker-Russell Mining & Mfg. Co., St. Louis, Mo.
The Stacey Manufacturing Co., Cincinnati, Ohio
The Stacey Bros. Gas Construction Co., Cincinnati, Ohio

A. G. A. MONTHLY

The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.
The Western Gas Construction Co., Fort Wayne, Ind.

GAS RANGE WATER HEATERS

Elliott Water Heater Co., Inc., 1246 Myrtle Ave., Brooklyn, N. Y.

GOVERNORS, PRESSURE VACUUM & PUMP

Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.
Plant Engineering & Equipment Co., Inc., 192 Broadway, New York, N. Y.

HEATERS (Room)

Century Stove & Mfg. Co., Johnstown, Pa.
Geo. M. Clark & Co. Div., Chicago, Ill.
Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.

Detroit Stove Works, Detroit, Mich.
Eclipse Gas Stove Co., Rockford, Ill.
Erie Stove & Mfg. Co., Erie, Pa.
Estate Stove Co., Hamilton, Ohio
Geist Mfg. Co., Atlantic City, N. J.
General Gas Light Co., New York, N. Y., and Kalamazoo, Mich.

Grinnell Co., Inc., Providence, R. I.
The J. H. Grayson Mfg. Co., Athens, Ohio
Hugo Manufacturing Co., West Duluth, Minn.
Illinois Specialty Mfg. Co., Bloomington, Ill.
Kidde & Co., 103 Park Ave., New York, N. Y.
Lawson Mfg. Co., Pittsburgh, Pa.
Masdon Mfg. Co., Cambridge, Mass.
New Process Stove Co. Div., Cleveland, Ohio
Reliable Stove Co. Div., Cleveland, Ohio
Reznor Mfg. Co., Mercer, Pa.
Roberts & Mander Stove Co., Philadelphia, Pa.
J. B. Slattery & Bro. Inc., 108-110 Lawrence St., Brooklyn, N. Y.

Strait & Richards, Inc., Newark, N. J.
The Baltimore Gas Appliance & Mfg. Co., Baltimore, Md.

The Ohio State Stove & Mfg. Co., Columbus, Ohio

The Sanitary Heating Co., 233 37th St., Brooklyn, N. Y.

The Western Gas Construction Co., Fort Wayne, Ind.

The A. H. Wolff Gas Radiator Co., 4 Great Jones St., New York, N. Y.

Welbach Co., Gloucester, N. J.

HEATERS (Garage)

Gallagher Boiler Co., Laclede Gas Bldg., St. Louis, Mo.

Kidde & Co., 103 Park Ave., New York, N. Y.

Masdon Mfg. Co., Cambridge, Mass.

HEATERS (Pressing and Soldering Irons)

Geo. M. Clark & Co. Div., Chicago, Ill.

Wm. M. Crane Co., 16 West 32d St., New York, N. Y.

Eclipse Gas Stove Co., Rockford, Ill.

Estate Stove Co., Hamilton, Ohio

General Gas Appliance Co., 103 Park Ave., New York, N. Y.

Charles A. Hones, Inc., Baldwin, Long Island, N. Y.

Johnson Gas Appliance Co., Cedar Rapids, Iowa

Strait & Richards, Inc., Newark, N. J.

The Bryant Heater & Mfg. Co., Cleveland, Ohio, and Chicago, Ill.

The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.

HIGH PRESSURE SYSTEMS

Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.

Grinnell Co., Inc., Providence, R. I.

H. Mueller Mfg. Co., New York, N. Y., and Decatur, Ill.

Needham Gas Appliance Co., Inc., 1 S. Lafayette St., New York City

Selas Co., 521 W. 23d St., New York, N. Y.

The Connorsville Blower Co., Connorsville, Ind.

The Gas Machinery Co., Cleveland, Ohio

The C. M. Kemp Mfg. Co., Baltimore, Md.

The Surface Combustion Co., 366 Gerard Ave., Bronx, N. Y.

HOLDERS (Structural Steel Works)

Banner Iron Works, 4560 Shaw Ave., St. Louis, Mo.

Camden Iron Works, Camden, N. J.

Cruse-Kemper Co., Ambler, Pa.

Davis & Farnum Mfg. Co., Waltham, Mass.

Gas Engineering Co., Ingram Ave., Trenton, N. J.

Riter-Conley Company, Pittsburgh, Pa.

The Bartlett Hayward Co., Baltimore, Md.

The Stacey Bros. Gas Construction Co., Cincinnati, Ohio

The Stacey Manufacturing Co., Cincinnati, Ohio

The Western Gas Construction Co., Fort Wayne, Ind.

HOT PLATES

A-B Stove Co., Battle Creek, Mich.

Century Stove & Mfg. Co., Johnstown, Pa.

Geo. M. Clark & Co. Div., Chicago, Ill.

Wm. M. Crane Co., 16 West 32d St., New York, N. Y.

Detroit Stove Works, Detroit, Mich.

Eclipse Gas Stove Co., Rockford, Ill.

Erie Stove & Mfg. Co., Erie, Pa.

General Gas Appliance Co., 103 Park Ave., New York, N. Y.

Rathbone, Sard & Co., Albany, N. Y.

J. B. Slattery & Bro., Inc., 108-110 Lawrence St., Brooklyn, N. Y.

The Baltimore Gas Appliance & Mfg. Co., Baltimore, Md.

The Eclipse Stove Co., Mansfield, Ohio

The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.

The Michigan Stove Co., Detroit, Mich.

The A. H. Wolff Gas Radiator Co., 4 Great Jones St., New York, N. Y.

The Ohio State Stove & Mfg. Co., Columbus, Ohio

Union Stove Works, 20 Beekman St., New York, N. Y.

Weir Stove Co., Taunton, Mass.

INDUSTRIAL FLOORING

H. W. Johns-Manville Co., Madison Ave. and 41st St., New York, N. Y.

IRONING MACHINES

American Ironing Machine Co., 168 N. Michigan Ave., Chicago, Ill.

Barnett Foundry & Machine Co., Lyons Ave., Irvington, N. J.

INCINERATORS

Estate Stove Co., Hamilton, Ohio

Odorless Incinerator Co., Philadelphia, Pa.

Rund Mfg. Co., Pittsburgh, Pa.

INSTRUMENTS (Measuring, Testing and Recording)

Bacharach Industrial Instrument Co., Pittsburgh, Pa.

Bailey Meter Co., Cleveland, Ohio

The Brown Instrument Co., Philadelphia, Pa.

Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.

Equitable Meter Co., Pittsburgh, Pa.

The Foxboro Co., Inc., Foxboro, Mass.

Lambert Meter Co., Inc., Bush Terminal Bldg., Brooklyn, N. Y.

D. McDonald & Co., Albany, N. Y.

Maryland Meter Works, Baltimore, Md.

Precision Instrument Co., 21 Halsey St., Newark, N. J.

Republic Flow Meters Co., 565 Washington Blvd., Chicago, Ill.

Steele Engineering Co., Detroit, Mich.

Superior Meter Co., Bush Terminal, Brooklyn, N. Y.

The Schaeffer & Budenberg Mfg. Co., Brooklyn, N. Y.

Taylor Instrument Companies, Rochester, N. Y.

The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.

The Western Gas Construction Co., Fort Wayne, Ind.

INSULATING MATERIALS

Armstrong Cork Company, Pittsburgh, Pa.

Celite Products Co., 11 Broadway, New York, N. Y.

Davis & Farnum Mfg. Co., Waltham, Mass.

H. W. Johns-Manville Co., Madison Ave. and 41st St., New York, N. Y.

A. G. A. MONTHLY

KILNS (For Firing Glass, China and Pottery)

B. F. Drakenfeld & Co., Inc., 50 Murray St., New York, N. Y.
General Gas Appliance Co., 103 Park Ave., New York, N. Y.
Russell Engineering Co., St. Louis, Mo.

KILNS

The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
The Parker-Russell Mining & Mfg. Co., St. Louis, Mo.
The Surface Combustion Co., 366 Gerard Ave., Bronx, N. Y.

LIGHTERS (Ranges)

Claus Automatic Gas Cook Co., Milwaukee, Wis.
Will W. Barnes, East Orange, N. J.
Milwaukee Gas Specialty Co., Milwaukee, Wis.
J. M. Sherwood Co., New York, N. Y.
Strause Gas Iron Co., Philadelphia, Pa.
The Michigan Stove Co., Detroit, Mich.
Welsbach Co., Gloucester, N. J.

LIGHTING (Fixtures)

Will W. Barnes, 31 Chelsea Place, East Orange, N. J.
Salem Brothers, 122 Centre St., New York, N. Y.
Welsbach Co., Gloucester, N. J.

LIGHTING (Gas Domes, Portables, etc.)

Will W. Barnes, 31 Chelsea Place, East Orange, N. J.
Kramer Bros. Lamp Co., 585 Broadway, New York, N. Y.
Royal Art Glass Co., 243 Canal St., New York, N. Y.
Salem Brothers, 122 Centre St., New York, N. Y.
Welsbach Co., Gloucester, N. J.

LIGHTING (Glassware)

Salem Brothers, 122 Centre St., New York, N. Y.

LIGHTING (Incidentals)

Welsbach Co., Gloucester, N. J.

LIGHTING (Incidentals)

Storrs Mica Co., Owego, N. Y.

LIGHTING (Mantles)

General Gas Light Co., New York, N. Y., and Kalamazoo, Mich.
Welsbach Co., Gloucester, N. J.

METAL RECEPTACLES

American Gas Furnace Co., 24 John St., New York, N. Y.
Wm. M. Crane Co., 16 West 32d St., New York, N. Y.
Charles A. Hones, Inc., Baldwin, Long Island, N. Y.
The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
National Machine Works, Sheffield & North Aves., Chicago, Ill.
The Surface Combustion Co., 366 Gerard Ave., Bronx, N. Y.
United Lead Co., 111 Broadway, New York, N. Y.

METERS

Bacharach Industrial Instrument Co., Pittsburgh, Pa.
Bailey Meter Co., Cleveland, Ohio
Cleveland Gas Meter Co., Cleveland, Ohio
Equitable Meter Co., Pittsburgh, Pa.
The Foxboro Co., Inc., Foxboro, Mass.
John J. Griffin & Co., 1521 Race St., Philadelphia, Pa.
Helme & McIlhenny, 17th and Clearfield Sts., Philadelphia, Pa.
Lambert Meter Co., Inc., Bush Terminal Bldg., Brooklyn, N. Y.
D. McDonald & Co., Albany, N. Y.
Maryland Meter Works, Baltimore, Md.
Metric Metal Works, Erie, Pa.
Pittsburgh Meter Co., East Pittsburgh, Pa.
Precision Instrument Co., 21 Halsey St., Newark, N. J.
Republic Flow Meters Co., 56 S. Washington Blvd., Chicago, Ill.
Rotary Meter Co., 52 Vanderbilt Ave., New York, N. Y.
Superior Meter Co., Bush Terminal, Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.

The Brown Instrument Co., Philadelphia, Pa.
The Connersville Blower Co., Connersville, Ind.
The Cutler-Hammer Mfg. Co., Milwaukee, Wis.
The Sprague Meter Co., Bridgeport, Conn.
Nathaniel Tufts Meter Works, 455 Commercial St., Boston, Mass.

METERS (Air and Steam)

Pittsburgh Meter Co., East Pittsburgh, Pa.
Republic Flow Meters Co., 565 Washington Blvd., Chicago, Ill.
The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.

METER CONNECTIONS, SEALS, Etc.

Cleveland Gas Meter Co., Cleveland, Ohio
S. R. Dresser Mfg. Co., Bradford, Pa.
Equitable Meter Co., Pittsburgh, Pa.
Helme & McIlhenny, 17th and Clearfield Sts., Philadelphia, Pa.
D. McDonald & Co., Albany, N. Y.
H. Mueller Mfg. Co., New York, N. Y., and Decatur, Ill.
Superior Meter Co., Bush Terminal, Brooklyn, N. Y.

The Lattimer Stevens Co., Columbus, Ohio
The Sprague Meter Co., Bridgeport, Conn.
Nathaniel Tufts Meter Works, 455 Commercial St., Boston, Mass.

Pittsburgh Meter Co., East Pittsburgh, Pa.

METERS (Steam, Condensation, Oil, Hot and Cold Water)

Pittsburgh Meter Co., Gasoline, East Pittsburgh, Pa.
Plant Engineering & Equipment Co., Inc., 192 Broadway, New York, N. Y.
Republic Flow Meter Co., 565 Washington Blvd., Chicago, Ill.

METERS PROVERS

Equitable Meter Co., Pittsburgh, Pa.
John J. Griffin & Co., Philadelphia, Pa.
Helme & McIlhenny, 17th and Clearfield Sts., Philadelphia, Pa.
Lambert Meter Co., Inc., Bush Terminal Bldg., Brooklyn, N. Y.
D. McDonald & Co., Albany, N. Y.
Maryland Meter Works, Baltimore, Md.
Pittsburgh Meter Co., East Pittsburgh, Pa.
Superior Meter Co., Bush Terminal, Brooklyn, N. Y.
Nathaniel Tufts Meter Works, 455 Commercial St., Boston, Mass.

METER SHELF

Wm. M. Crane Co., 16 West 32d St., New York, N. Y.

The Lattimer Stevens Co., Columbus, Ohio

OFFICE LABOR SAVING DEVICES

Addressograph Co., Chicago, Ill.
Burroughs Adding Machine Co., Detroit, Mich.
Elliott-Fisher Co., Harrisburg, Pa.
Kalamazoo Loose-Leaf Binder Co., Kalamazoo, Mich.
Library Bureau, Boston, Mass.
Monroe Calculating Machine Co., Woolworth Bldg., New York, N. Y.
Remington Typewriter Co., 374 Broadway, New York, N. Y.
Underwood Typewriter Co., Vesey St., New York, N. Y.

OIL (Diaphragm)

John J. Griffin & Co., 1521 Race St., Philadelphia, Pa.
Superior Meter Co., Brooklyn, N. Y.

OVENS (Baking and Cooking)

Geo. M. Clark & Co. Div., Chicago, Ill.
Wm. M. Crane Co., 16 West 32d St., New York, N. Y.
Eclipse Gas Stove Co., Rockford, Ill.
Famous Oven Manufacturing Co., 110 W. 42d St., New York, N. Y.
General Gas Appliance Co., 103 Park Ave., New York, N. Y.
Grinnell Co., Inc., Providence, R. I.
Meek Oven Mfg. Co., 18 W. 34th St., New York, N. Y.
E. E. Steiner & Co., Inc., 20 Orange St., Newark, N. J.

A. G. A. MONTHLY

OVENS (Baking and Cooking)

The G. S. Blodgett Co., Burlington, Vt.
The Crandall-Petree Co., Hudson St., New York, N. Y.
The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
The Ohio State Stove & Mfg. Co., Columbus, Ohio
The Union Steel Products Co., Ltd., Albion, Mich.
The Surface Combustion Co., 366 Gerard Ave., Bronx, N. Y.

OVENS (Annealing, Japanning, Drying, Core, etc.)

Famous Oven Manufacturing Co., 110 W. 42d St., New York, N. Y.
Gehrich Indirect Heat Oven Co., Inc., 62 Franklin Ave., Brooklyn, N. Y.
General Gas Appliance Co., 103 Park Ave., New York, N. Y.
Grinnell Co., Inc., Providence, R. I.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
Meek Oven Mfg. Co., 18 West 34th St., New York, N. Y.
National Machine Works, Sheffield & North Aves., Chicago, Ill.
E. E. Steiner & Co., Inc., 20 Orange St., Newark, N. J.
The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
The C. M. Kemp Mfg. Co., Baltimore, Md.
Monarch Engineering & Mfg. Co., American Bldg., Baltimore, Md.
The Surface Combustion Co., 366 Gerard Ave., Bronx, N. Y.
The Union Steel Products Co., Ltd., Albion, Mich.
Young Bros. Co., Detroit, Mich.

OVENS (Warming)

Wm. M. Crane Co., 16 West 32d St., New York, N. Y.
Eclipse Gas Stove Co., Rockford, Ill.
General Gas Appliance Co., 103 Park Ave., New York, N. Y.
Meek Oven Mfg. Co., 18 W. 34th Et., New York, N. Y.
The G. S. Blodgett Co., Burlington, Vt.
The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
The Union Steel Products Co., Ltd., Albion, Mich.

PACKINGS (Rod, Plunger, Piston and Flange)

H. W. Johns-Manville Co., Madison Ave. and 41st St., New York, N. Y.

PAINTS (Metal Protective, Gas Holder, Acid Resisting, Coal Tar Pitch, Gas Resisting, Marine)

The Sherwin-Williams Co., Cleveland, Ohio, New York, N. Y.

PHOTOMETERS

Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.
D. McDonald & Co., Albany, N. Y.
Maryland Meter Works, Baltimore, Md.
Nathaniel Tufts Meter Works, Boston, Mass.

PIPE

Davis & Farnum Mfg. Co., Waltham, Mass.
Grinnell Co., Inc., Providence, R. I.
National Tube Co., Frick Bldg., Pittsburgh, Pa.
Ritter-Conley Company, Pittsburgh, Pa.
Sterc Engineering Co., Detroit, Mich.
The Bartlett Hayward Co., Baltimore, Md.
United Lead Co., 111 Broadway, New York, N. Y.

PIPE CASTINGS AND SPECIALS

Banner Iron Works, 4560 Shaw Ave., St. Louis, Mo.
Davis & Farnum Mfg. Co., Waltham, Mass.
National Machine Works, Sheffield & North Aves., Chicago, Ill.
Isbell-Porter Co., Newark, N. J.
Gas Engineering Co., Ingram Ave., Newark, N. J.
The Bartlett Hayward Co., Baltimore, Md.
The Stacey Manufacturing Co., Cincinnati, Ohio
The Western Gas Construction Co., Fort Wayne, Ind.

PIPE CLAMPS AND SLEEVES

Davis & Farnum Mfg. Co., Waltham, Mass.
S. R. Dresser Mfg. Co., Bradford, Pa.
National Machine Works, Sheffield & North Aves., Chicago, Ill.

PIPE PACKING

Celite Products Co., 11 Broadway, New York, N. Y.
Grinnell Co., Inc., Providence, R. I.
United Lead Co., 111 Broadway, New York, N. Y.

PIPE TOOLS (Caulking, Cutting, Tapping)

Grinnell Co., Inc., Providence, R. I.
H. Mueller Mfg. Co., New York, N. Y. and Decatur, Ill.
Safety Gas Main Stopper Co., 943 Fulton St., Brooklyn, N. Y.
United Lead Co., 111 Broadway, New York, N. Y.

PLATE WARMERS

Wm. M. Crane Co., 16 West 32d St., New York, N. Y.
Duparquet, Huot & Moneuse Co., 108 W. 22d St., New York, N. Y.
General Gas Appliance Co., 103 Park Ave., New York, N. Y.
The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.

PORCELAIN ENAMEL PARTS (Stoves, Lamps, Linings, Stamping and Spinnings)

Baltimore Enamel & Novelty Co., Baltimore, Md.
Chicago Vitreous Enamel Product Co., 1407 So. 55th Court, Cicero, Ill.
Eclipse Gas Stove Co., Rockford, Ill.
The Enamel Products Co., Cleveland, Ohio.
The Porcelain Enamel & Mfg. Co., Baltimore, Md.
The Union Steel Products Co., Ltd., Albion, Mich.

PORCELAIN ENAMEL PLANTS (Installers)

The Porcelain Enamel & Mfg. Co., Baltimore, Md.

PRESSURE GAUGES

Bacharach Industrial Instrument Co., Pittsburgh, Pa.
Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.
Equitable Meter Co., Pittsburgh, Pa.
Grinnell Co., Inc., Providence, R. I.
Maryland Meter Works, Baltimore, Md.
D. McDonald Co., Albany, N. Y.
National Machine Works, Sheffield & North Aves., Chicago, Ill.
Superior Meter Co., Bush Terminal, Brooklyn, N. Y.
The Brown Instrument Co., Philadelphia, Pa.
The Bryant Heater & Mfg. Co., Cleveland, Ohio
The Gas Machinery Co., Cleveland, Ohio
The Schaeffer & Hadenberg Mfg. Co., Brooklyn, N. Y.
The Western Gas Construction Co., Fort Wayne, Ind.
Nathaniel Tufts Meter Works, Boston, Mass.

PRESSURE GAUGES (Boiler, Naphtha, Oil, Steam, Tar)

M. T. Davidson Co., 134 Nassau St., New York, N. Y.

PUMPING ENGINES

PUMPS

M. T. Davidson Co., 134 Nassau St., New York, N. Y.
Gas Machinery Co., Cleveland, Ohio
Nathaniel Tufts Meter Works, Boston, Mass.
Plant Engineering & Equipment Co., Inc., 192 Broadway, New York, N. Y. (Centrifugal, Reciprocating & Sump).
Superior Meter Co., Brooklyn, N. Y.
The Connorsville Blower Co., Connorsville, Ind.
The Western Gas Construction Co., Fort Wayne, Ind.
L. J. Wing Mfg. Co., 362 West 13th St., New York, N. Y.

PURIFIERS

Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.

A. G. A. MONTHLY

Cruse-Kemper Co., Ambler, Pa.
 Davis & Farnum Mfg. Co., Waltham, Mass.
 Gas Engineering Co., Ingram Ave., Newark, N. J.
 Gas Machinery Co., Cleveland, Ohio
 Isbell-Porter Co., Newark, N. J.
 Ritter-Conley Company, Pittsburgh, Pa.
 Steere Engineering Co., Detroit, Mich.
 The Bartlett Hayward Co., Baltimore, Md.
 The Improved Equipment Co., 60 Wall St., New York, N. Y.
 The Stacey Bros. Gas Construction Co., Cincinnati, Ohio
 The Stacey Manufacturing Co., Cincinnati, Ohio
 The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.
 The Western Gas Construction Co., Fort Wayne, Ind.

PURIFYING MATERIALS

Connelly Iron Sponge & Governor Co. 227 Fulton St., New York, N. Y.
 Eph Lyon. Trust Company Bldg., Franklin, Pa.
 Gas Purifying Materials Co., Long Island City, N. Y.
 J. F. Henderson Co., 1707 Commonwealth Bldg., Pittsburgh, Pa.
 Iron Hydroxide Co., Paschall Station, Philadelphia, Pa.

PYROMETERS

The Brown Instrument Co., Philadelphia, Pa.

RADIATORS

American Gas Appliance Co., 108 Lawrence St., Brooklyn, N. Y.
 Cabco Sales Co., Gowanda, N. Y.
 James B. Clow & Sons, Chicago, Ill.
 Wm. M. Crane Co., 16 West 32d St., New York, N. Y.
 Erie Stove & Mfg. Co., Erie, Pa.
 Grinnell Co., Inc., Providence, R. I.
 Hugo Manufacturing Co., West Duluth, Minn.
 Kidde & Co., 103 Park Ave., New York, N. Y.
 J. B. Slattery & Bro., Inc., 108-110 Lawrence St., Brooklyn, N. Y.
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
 The Mead Gas Heater Co., Delawanna, N. J.
 The A. H. Wolff Gas Radiator Co., 4 Great Jones St., New York, N. Y.

RANGES (Domestic)

A-B Stove Co., Battle Creek, Mich.
 Century Stove & Mfg. Co., Johnstown, Pa.
 Geo. M. Clark & Co. Div., Chicago, Ill.
 Chambers Manufacturing Co., Shelbyville, Ind.—(Fireless type)
 The Bartlett Co., Inc., Philadelphia, Pa.
 Comstock-Castle Stove Co., Quincy, Ill.
 Abram Cox Stove Co., Philadelphia, Pa.
 Wm. M. Crane Co., 16 West 32d St., New York, N. Y.
 Detroit Stove Works, Detroit, Mich.
 Dangler Stove Co. Div., Cleveland, Ohio
 Eclipse Gas Stove Co. Div., Rockford, Ill.
 Erie Stove & Mfg. Co., Erie, Pa.
 Estate Stove Co., Hamilton, Ohio
 Gribben & Sexton Co., Chicago, Ill.
 Malleable Iron Range Co., Beaver Dam, Wis.
 National Stove Co. Div., Lorain, Ohio
 New Process Stove Co. Div., Cleveland, Ohio
 Quick Meal Stove Co. Div., St. Louis, Mo.
 Rathbone, Sord & Co., Albany, N. Y.
 Reliable Stove Co. Div., Cleveland, Ohio
 Roberts & Mander Stove Co., Philadelphia, Pa.
 Scott Gas Appliance Mfg. Co., Commercial House, Pottstown, Pa.
 I. M. Sherwood Co., New York, N. Y.
 The Baltimore Gas Appliance & Mfg. Co., Baltimore, Md.
 The Champion Stove Co., Cleveland, Ohio
 The Eclipse Stove Co., Mansfield, Ohio
 The General Gas Appliance Co., 103 Park Ave., New York, N. Y.
 The Michigan Stove Co., Detroit, Mich.
 The Ohio State Stove & Mfg. Co., Columbus, Ohio
 The Trenkamp Stove & Mfg. Co., Cleveland, Ohio

RANGES (Domestic)

The Peninsular Stove Co., Detroit, Mich.
 The A. H. Wolff Gas Radiator Co., 4 Great Jones St., New York, N. Y.
 Union Stove Works, 70 Beekman St., New York, N. Y.
 Vesta Gas Range & Mfg. Co., Chattanooga, Tenn.
 Walker & Mfg. Co., Boston, Mass.
 Weir Stove Co., Taunton, Mass.

RANGES (Hotel)

Geo. M. Clark & Co. Div., Chicago, Ill.
 Comstock-Castle Stove Co., Quincy, Ill.
 Abram Cox Stove Co., Philadelphia, Pa.
 Wm. M. Crane Co., 16 West 32d St., New York, N. Y.
 Detroit Stove Works, Detroit, Mich.
 Duparquet, Huot & Moneuse Co., 108 W. 22d St., New York, N. Y.
 Eclipse Gas Stove Co. Div., Rockford, Ill.
 Estate Stove Co., Hamilton, Ohio
 The General Gas Appliance Co., 103 Park Ave., New York, N. Y.
 Roberts & Mander Stove Co., Philadelphia, Pa.
 The Baltimore Gas Appliance & Mfg. Co., Baltimore, Md.
 The Michigan Stove Co., Detroit, Mich.

REFRACTORY MATERIALS

J. H. Gautier & Co., Jersey City, N. J.
 Harbison-Walker Refractories Co., Pittsburgh, Pa.
 Quigley Furnace Specialties Co., 26 Cortlandt St., New York, N. Y.
 Laclede-Christy Clay Products Co., St. Louis, Mo.
 Mount Union Refractories Co., Mount Union, Pa.
 Ritter-Conley Company, Pittsburgh, Pa.
 Russell Engineering Co., St. Louis, Mo.
 G. F. Schmidt, Chicago, Ill.
 Tate-Jones & Co., Inc., 50 Church St., New York, N. Y.
 The Improved Equipment Co., 60 Wall St., New York, N. Y.
 Monarch Engineering & Mfg. Co., American Bldg., Baltimore, Md.
 The Parker-Russell Mining & Mfg. Co., St. Louis, Mo.

REGULATORS (Governors)

The Chaplin-Fulton Mfg. Co., Pittsburgh, Pa.
 Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.
 Equitable Meter Co., Pittsburgh, Pa.
 Gas Machinery Co., Cleveland, Ohio
 Isbell-Porter Co., Newark, N. J.
 H. Mueller Mfg. Co., New York, N. Y., and Decatur, Ill.
 National Machine Works, Sheffield & North Aves., Chicago, Ill.
 Reynolds Gas Regulator Co., Anderson, Ind.
 Steere Engineering Co., Detroit, Mich.
 The Brown Instrument Co., Philadelphia, Pa.
 The Connersville Blower Co., Connersville, Ind.
 The Improved Equipment Co., 60 Wall St., New York, N. Y.
 The Sprague Meter Co., Bridgeport, Conn.
 The Western Gas Construction Co., Fort Wayne, Ind.
 L. J. Wing Mfg. Co., 362 West 13th St., New York, N. Y.

REDUCING VALVES (Gas, Air, Steam, Water)
 Plant Engineering & Equipment Co., Inc., 192 Broadway, New York, N. Y.

REPAIRS (Gas Meters and Appliances)
 Helme & McIlhenny, 17th and Clairfield Sts., Philadelphia, Pa.
 Maryland Meter Works, Baltimore, Md.
 Superior Meter Co., Brooklyn, N. Y.
 The Western Gas Construction Co., Fort Wayne, Ind.

REPORTS

Gas Machinery Co., Cleveland, Ohio
 J. H. Gautier & Co., Jersey City, N. J.
 Harbison-Walker Refractories Co., Pittsburgh, Pa.
 Russell Engineering Co., St. Louis, Mo.
 Ritter-Conley Company, Pittsburgh, Pa.

A. G. A. MONTHLY

The Improved Equipment Co., 60 Wall St., New York, N. Y.
 The Parker-Russell Mining & Mfg. Co., St. Louis, Mo.
 The West Gas Improvement Co. of America, 150 Nassau St., New York, N. Y.

ROOFING

H. W. Johns-Manville Co., Madison Ave. and 41st St., New York, N. Y.

ROOF CEMENTS

The Sherwin-Williams Co., Cleveland, Ohio, New York, N. Y.
 H. W. Johns-Manville Co., New York, N. Y.

RUST PREVENTIVE

Superior Laboratories, Grand Rapids, Mich.

SCRUBBERS

Davis & Farnum Mfg. Co., Waltham, Mass.
 Gas Engineering Co., Ingram Ave., Trenton, N. J.
 Foundation Oven Corporation, Woolworth Building, New York, N. Y.
 Gas Machinery Co., Cleveland, Ohio
 Isbell-Porter Co., Newark, N. J.
 Riter-Conley Company, Pittsburgh, Pa.
 Steere Engineering Co., Detroit, Mich.
 The Bartlett Hayward Co., Baltimore, Md.
 The Improved Equipment Co., 60 Wall St., New York, N. Y.
 The Koppers Co., Pittsburgh, Pa.
 The Stacey Bros. Gas Construction Co., Cincinnati, Ohio
 The Stacey Manufacturing Co., Cincinnati, Ohio
 The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.
 The Western Gas Construction Co., Fort Wayne, Ind.

SELLING AGENTS

J. M. Sherwood Co., 154 Chambers St., New York, N. Y.
 Kidde & Co., 103 Park Ave., New York, N. Y.
 Will W. Barnes, 31 Chelsea Place, East Orange, N. J.

SEPARATORS (Oil and Steam)

Plant Engineering & Equipment Co., Inc., 192 Broadway, New York, N. Y.

SERVICE BOXES, CLAMPS, Etc.

Davis & Farnum Mfg. Co., Waltham, Mass.
 Grinnell Co., Inc., Providence, R. I.
 Hays Mfg. Co., Inc., Erie, Pa.
 H. Mueller Mfg. Co., New York, N. Y., and Decatur, Ill.

SERVICE VALVES (Gate valves)

The Ludlow Valve Mfg. Co., Ft. Adams St., Troy, N. Y.

SOAPS (Industrial)

The Sherwin-Williams Co., Cleveland, Ohio, New York, N. Y.

SPECIALS—CAST IRON

The Western Gas Construction Co., Fort Wayne, Ind.

STEAM TRAPS

Plant Engineering & Equipment Co., Inc., (Cor. Has Valve) 192 Broadway, New York, N. Y.
 H. W. Johns-Manville Co., New York, N. Y.

STILLS (Benzol, Toluol)

Foundation Oven Corporation, Woolworth Building, New York, N. Y.
 The Bartlett Hayward Co., Baltimore, Md.
 The Koppers Co., Pittsburgh, Pa.
 The Western Gas Construction Co., Fort Wayne, Ind.

STOPPERS (Gas main)

Safety Gas Main Stopper Co., 943 Fulton St., Brooklyn, N. Y.

STOVES (Confectioners, Laundry, Tailor)

A-B Stove Co., Battle Creek, Mich.
 Geo. M. Clark & Co. Div., Chicago, Ill.
 Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.

General Gas Appliance Co., 103 Park Ave., New York, N. Y.
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.

STRAINERS (Gas, Air, Steam, Water)

Plant Engineering & Equipment Co., Inc., 192 Broadway, New York, N. Y.

STRUCTURAL STEEL WORKS (See Holders)

TANKS (Ammonia, Oil, Water)

Cruse-Kemper Co., Ambler, Pa.
 Davis & Farnum Mfg. Co., Waltham, Mass.
 Gas Engineering Co., Ingram Ave., Trenton, N. J.
 Gas Machinery Co., Cleveland, Ohio
 National Tube Co., Frick Bldg., Pittsburgh, Pa.
 Riter-Conley Company, Pittsburgh, Pa.
 Steere Engineering Co., Detroit, Mich.
 The Bartlett Hayward Co., Baltimore, Md.
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
 The Stacey Bros. Gas Construction Co., Cincinnati, Ohio
 The Stacey Manufacturing Co., Cincinnati, Ohio
 The Western Gas Construction Co., Fort Wayne, Ind.

TAR DEHYDRATION

The Sharples Specialty Co., New York, N. Y.

THERMOMETERS

Brown Instrument Co., Philadelphia, Pa.
 Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.
 Gas Machinery Co., Cleveland, Ohio
 Grinnell Co., Inc., Providence, R. I.
 Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
 Gas Instrument Co., Ingram Ave., Trenton, N. J.
 The Schaeffer & Budenberg Mfg. Co., Brooklyn, N. Y.
 Superior Meter Co., Bush Terminal, Brooklyn, N. Y.
 The Western Gas Construction Co., Fort Wayne, Ind.

THERMOSTATS

Brown Instrument Co., Philadelphia, Pa.
 Gas Machinery Co., Cleveland, Ohio
 Kidde & Co., 103 Park Ave., New York, N. Y.
 Minneapolis Heat Regulator Co., Minneapolis, Minn.
 B. Ryan & Co., 372 W. 15th St., New York, N. Y.
 The Bryant Heater & Mfg. Co., Cleveland, Ohio
 The H. A. Wilson Co., 97 Chestnut St., Newark, N. J.

THERMO VALVES

Brown Instrument Co., Philadelphia, Pa.
 Pittsburgh Water Heater Co., Pittsburgh, Pa.
 Robertshaw Mfg. Co., Youngwood, Pa.

THORIUM

Welsbach Co., Gloucester, N. J.

TRENCH WORK

Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.
 Safety Gas Main Stopper Co., 943 Fulton St., Brooklyn, N. Y.

TURBINE (Steam)

L. J. Wing Mfg. Co., 362 West 13th St., New York, N. Y.

VALVES

Claus Automatic Gas Cock Co., Milwaukee, Wis.
 Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.
 Gas Machinery Co., Cleveland, Ohio
 Grinnell Co., Inc., Providence, R. I.
 Isbell-Porter Co., Newark, N. J.
 Plant Engineering & Equipment Co., Inc., 192 Broadway, New York, N. Y.
 Steere Engineering Co., Detroit, Mich.
 The Bartlett Hayward Co., Baltimore, Md.
 The Bryant Heater & Mfg. Co., Cleveland, Ohio
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.

A. G. A. MONTHLY

- The Improved Equipment Co., 60 Wall St., New York, N. Y.
 The Ludlow Valve Mfg. Co., Ft. Adams St., Troy, N. Y.
 The Stacey Manufacturing Co., Cincinnati, Ohio
 The Western Gas Construction Co., Fort Wayne, Ind.
- VALVES (Needle Valves for Gas Stoves)**
 Acme Brass Works, Detroit, Mich.
 Peninsular Brass Works, Detroit, Mich.
 The Roberts Brass Mfg. Co., Detroit, Mich.
- VARNISHES (Insulating and Compounds)**
 The Sherwin-Williams Co., Cleveland, Ohio, New York, N. Y.
- WATER HEATERS**
 A-B Stove Co., Battle Creek, Mich.
 American Heater Corporation, St. Louis, Mo.
 Bartlett & Co., Inc., Philadelphia, Pa.
 Bastian Morley Co., La Porte, Ind.
 Geo. M. Clark & Co. Div., Chicago, Ill.
 Abram Cox Stove Co., Philadelphia, Pa.
 Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.
 Detroit Stove Works, Detroit, Mich.
 Eclipse Gas Stove Co., Rockford, Ill.
 The Elliott Water Heating Co., Brooklyn, N. Y.
 Estate Stove Co., Hamilton, Ohio
 General Gas Appliance Co., 103 Park Ave., New York, N. Y.
 Humphrey Co. Div., Kalamazoo, Mich.
 Kidde & Co., 103 Park Ave., New York, N. Y.
 Lawson Mfg. Co., Pittsburgh, Pa.
 Madadon Mfg. Co., Cambridge, Mass.
 The Kompak Company, New Brunswick, N. J.
- New Process Stove Co. Div., Cleveland, Ohio
 Peninsular Stove Co., Detroit, Mich.
 Philadelphia Stove Co., Philadelphia, Pa.
 Pittsburgh Water Heater Co., Pittsburgh, Pa.
 B. Ryan & Co., New York, N. Y.
 The Trenkamp Stove & Mfg. Co., Cleveland, Ohio, more, Md.
- WATER HEATERS**
 Rathbone, Sard & Co., Albany, N. Y.
 Reliable Stove Co. Div., Cleveland, Ohio
 Ruud Mfg. Co., Pittsburgh, Pa.
 The Baltimore Gas Appliance & Mfg. Co., Baltimore, Md.
 The Bryant Heater & Mfg. Co., Cleveland, Ohio
 The Cleveland Heater Co., Cleveland, Ohio
 The Hoffman Heater Co., Lorain, Ohio
 The Lovekin Water Heater Co., 39 Laurel St., Philadelphia, Pa.
 The Michigan Stove Co., Detroit, Mich.
 Toombs Mfg. Co., Geneva, Ill.
- WATER SOFTENERS**
 The Refinite Co., Inc., Omaha, Neb.
- WATER STILLS (Gas Heated)**
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
 Young Bros. Co., Detroit, Mich.
- WELDED STEEL PIPE**
 The Bartlett Hayward Co., Baltimore, Md.
 The Western Gas Construction Co., Fort Wayne, Ind.
 Steere Engineering Co., Detroit, Mich.
- WOOD PRESERVATIVES**
 The Sherwin-Williams Co., Cleveland, Ohio, New York, N. Y.

(Continued from page 375)

TEXAS

- Beaumont:** Gas Lt. Co., reports increase effective April, 1921. New rate 1st 5 MCF. \$1.40 gro. \$1.25 net, next 5 MCF. \$1.25 net, next 10 MCF., \$1.10, over 20 MCF. \$1.00 net per M. Old rate 1st 5 MCF. \$1.40 gro. \$1.25 net, next 5 MCF. \$1.00 net, over 10 MCF. 80¢ net per M.
- Galveston:** Gas Co., reports increase effective Jan. 19, 1921. New rate 1st 10 MCF. \$1.45, next 5 MCF. \$1.35, next 5 MCF. \$1.25, next 5 MCF. \$1.20, over 25 MCF. \$1.15 net per M. M. M. Chge \$1.00. Old rate 1st 5 MCF. \$1.40 net, next 5 MCF. \$1.30, next 5 MCF. \$1.20, next MCF. \$1.05, next 5 MCF. .90, over 25 MCF. 80¢ per M. M. M. Chge 80¢ per M.

VIRGINIA

- Portsmouth:** Co., reports decrease effective May 1, 1921. New rate \$1.60 gro. \$1.50 net per MCF. M. M. Chge .75, P. P. Meters \$1.50 net per M.

WASHINGTON

- Seattle:** Co., reports change in calorific standard effective June 1, 1921, from 600 to 500 to 530 B.t.u., rates unchanged.
- Spokane:** Co., reports third increase effective April 1, 1921. New rate for all consumption up to and including 3 CCF. \$1.30, next 27 CCF. \$1.60 per M., next 3 MCF. \$1.50, next 4 MCF. \$1.40, next 20 MCF. \$1.30, next 30 MCF. \$1.10, over 60 MCF. .90 per M.

WISCONSIN

- Stevens Point:** Co., reports second increase effective May 1, 1921. New rate 1st MCF. \$2.30, next 2 MCF. \$2.15, next 7 MCF. \$1.95, over 10 MCF. \$1.65 per M. M. M. Chge .75.

CANADA

- Guelph:** Co., reports making a reduction of 15¢ per M. effective May 1, 1921. New rate \$1.65 per MCF. disc. unchanged.

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Employment Bureau

SERVICES OFFERED

WANTED—Position as Industrial Power and Fuel Engineer, Technical engineer and salesman of excellent qualifications for industrial power and fuel sales. Now employed \$3000. Address—A. G. A.

Key No. 111

WANTED—Position as executive in a local office of a gas or a combination gas and electric company. Have had practical experience in all branches of commercial utility work. Have been successful in dealing with the public and promoting good will of utility companies. Educated in commercial and accounting methods as compiled by the N. C. G. A. and N. E. L. A. Well acquainted in office routine and very exact on details and execution of same. Address A. G. A.

Key No. 114

WANTED—A position with a gas appliance company having need for an all around man experienced in development and selling. Can furnish best of references. Address—A. G. A.

Key No. 116

POSITION WANTED—As General Superintendent or Engineer of good-sized company, by well known technical graduate of 18 years' connection with the gas business. Experienced in every branch of the industry and has made good. Has been superintendent of one large company and manager of other smaller ones. Has himself laid mains, made gas set ratings, purchased and sold appliances, etc., so that he knows the difficulties and the things to avoid. Noted for his ability to handle men. Well read and up-to-date in every particular. Address—A. G. A.

Key No. 117

WANTED—Position as manager in medium size town of as gas engineer by technical man with 9 years' experience in all branches. Both syndicate and private operation. Has shown exceptionally good results. Address A. G. A.

Key No. 118

WANTED—Position as manager or superintendent with gas company in North-Eastern States. Eight years' experience in both coal and water gas. Married. Good references. Address A. G. A.

Key No. 119

WANTED—Position as General Manager of Gas or Gas and Electric Company in city of size or as assistant to chief executive in very large company. Operation, management, finance, rates and capitalization by Public Utility engineer of broad experience. Address A. G. A.

Key No. 120

WANTED—Position as assistant to engineer of small syndicate of gas and electric companies. Have had four years' experience in engineering department of a holding corporation. Address A. G. A.

Key No. 123

WANTED—Position where nearly twenty years' intensive study of carbonization, works operation, by-product recovery, and all details of apparatus and machinery peculiar to the manufacturing end of the business can be utilized to mutual advantage. Address A. G. A.

Key No. 122

WANTED—Position as Manager of a gas property, by a man who left such a position two months ago to become the Manager of a manufacturing company. Is 34 years of age; technical graduate, and experienced in all branches of the gas business. Reports and data available from past experience; also the best of reference. Address A. G. A.

Key No. 124

EXECUTIVE AVAILABLE—An executive who has had some years' experience in construction, operation and management of gas, electric power and traction properties will soon be open for engagement. Is especially competent in management of such properties in all branches, including fare, rate, franchise, and valuation proceedings, labor matters and public relation. Will show record of successful work for fifteen years back with proofs to anyone interested. A. G. A. Monthly.

Key No. 124

GAS APPLIANCE SALESMAN—Especially trained in water and house heating; 15 years' experience; desires selling position, either road or local, with aggressive appliance manufacturers or gas company. Will furnish best selling references. Drawing account against commission. Address A. G. A.

Key No. 125

WANTED—Position as salesman or sales manager with reliable gas or electric appliance manufacturer preferred. Address A. G. A.

Key No. 126

WANTED—Position as manager or sales manager of gas, electric or combined property or group of properties. Now employed by company with which applicant has been associated for several years. Excellent reasons for wishing to make change which, together with highest references will be furnished to owners interested in securing thoroughly competent executive. Address A. G. A.

Key No. 127

WANTED—Position as Superintendent of small company in town of about 100,000 population or as Assistant Superintendent of some large holding company. New England or Central States preferred. Married, middle age, at present employed and can furnish good reference. Address A. G. A.

Key No. 128

WANTED—Position as General Superintendent or Superintendent of Manufacture, coal or water gas; life experience in same, at present superintendent of small plant; A. references. Salary \$200 per month. Address A. G. A.

Key No. 129

WANTED—Position as Manager of property in city of 20,000-25,000. Thorough knowledge of all departments, gained from twenty years' experience. At present employed, but desirous of change. Ample references furnished as to character and ability. Address A. G. A.

Key No. 130

MECHANICAL ENGINEER—38 years old, 4½ years experience in drafting, designing, machine shop and construction work, including 2½ years in gas and chemical business, desires position as Assistant Superintendent or Plant Engineer. 15 months in Army. Junior member A. S. M. E. Address A. G. A.

Key No. 132

WANTED—Position as Superintendent or Assistant Superintendent in medium sized W. G. Plant in vicinity of New York, by American, 26 years of age. Technical education—5 years in Gas Business. At present Superintendent of plant in Western City. Change desired for betterment and desire to return to East. Address A. G. A.

Key No. 133

AMERICAN GAS ASSOCIATION, INC.

HEADQUARTERS 130 EAST 15TH ST., NEW YORK, N. Y.

Officers and Directors

PRESIDENT	CHARLES A. MUNROE	Chicago, Ill.
VICE-PRESIDENT	HOWARD BRUCE	Baltimore, Md.
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SECTIONAL VICE-PRES.	GEORGE S. BARROWS	Providence, R. I.
SECTIONAL VICE-PRES.	W. H. PETTES	Newark, N. J.
SECTIONAL VICE-PRES.	M. C. ROBBINS	New York, N. Y.

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SAMUEL T. BODINE	Philadelphia, Pa.
R. E. BROWN	Milwaukee, Wis.
HENRY L. DOHERTY	New York, N. Y.
ARTHUR HEWITT	Toronto, Can.
C. L. HOLMAN	St. Louis, Mo.
J. B. KLUMPP	Philadelphia, Pa.
A. B. MacBETH	Los Angeles, Cal.
THOMAS N. McCARTER	Newark, N. J.
EMERSON McMILLIN	New York, N. Y.
H. A. NORTON	Boston, Mass.
GEORGE D. ROPER	Rockford, Ill.
W. G. GRIBBEL	Philadelphia, Pa.
R. C. CONGDON	Atlanta, Ga.
L. R. DUTTON	Jenkintown, Pa.
F. H. KNAPP	Pittsburgh, Pa.

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Secretary	LOUIS STOTZ	Ass'n Headqtrs.
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Secretary	H. W. HARTMAN	Ass'n Headqtrs.

SECRETARY-MANAGER	OSCAR H. FOGG	Ass'n Headqtrs.
ASS'T SECRETARY-MANAGER	LOUIS STOTZ	Ass'n Headqtrs.
ASS'T SECRETARY-MANAGER	PERCY H. HALL	Ass'n Headqtrs.
ASS'T TREASURER	W. CULLEN MORRIS	New York, N. Y.

